An investigation into pupils' knowledge of and attitudes towards AIDS: a survey of four private schools.

by
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No man is an island, entire of itself; every man
is a piece of the continent ....; any man's death
diminishes me, because I am involved in mankind;
and therefore never send to know for whom the bell
tolls; it tolls for thee.

Donne, Devotions, XVII

This work is dedicated to the men in my life:

To my late father who fostered my interest in my fellowman;

To my husband who has been a source of sane support;

To my two sons who have taught me so much.

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ABSTRACT

Because of the extent and immediacy of the problem of AIDS in the RSA and because this disease, which is mainly transmitted by voluntary human behaviour, has no cure, the need for educational programmes to curtail the spread of AIDS is seen as of prime importance in the RSA. At present there is little published research about the levels of knowledge of AIDS attained by pupils in junior and senior schools, nor of the attitudes they have towards the disease. It was felt that without this information, it would be difficult to develop appropriate AIDS education programmes.

In this research, questionnaires were administered to investigate the knowledge of and attitudes towards the acquired immunodeficiency syndrome - (AIDS) - of the standards 5, 7 and 9 pupils at four private schools. These three age groups were chosen in order to look at the possible effects of the maturation process on these pupils' perceptions of AIDS. A questionnaire was also completed by selected school personnel to provide background information on any existing AIDS education in the schools. A pilot study was carried out with a small group of pupils in order to establish the areas of concern being expressed by senior school pupils.

The results of the survey have shown that while there is a gradation in the knowledge levels of the pupils in standards 5, 7 and 9, there is a need for more intensive teaching of AIDS at or before the transition from junior to senior school. That the pupils perceive a need for school-based education, particularly in order to acquire knowledge of prevention strategies, was evident. The attitudes of the majority of the pupils towards AIDS sufferers were found to be tolerant or circumspect, although there was evidence of intolerance from some quarters. The fears of the pupils were found to stem largely from the unique characteristics of the disease and a lack of knowledge of how to protect themselves against it.

In developing guidelines for a programme of AIDS education for the South African schools, the programmes and interventions currently operative in the USA, Great Britain, Europe and two African countries were considered.

This research has raised a number of questions, the answers to which will be important in the development of future programmes of AIDS education.

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CHAPTER 1: THE STATEMENT OF THE PROBLEM

1. Introduction

To appreciate the need for AIDS education and to understand the problems that surround the implementation and effectiveness of such a programme, some basic facts about the disease itself are necessary.

AIDS is caused by the human immunodeficiency virus (HIV) which is found in high concentrations in certain body secretions of seropositives — namely blood, semen and vaginal secretions. HIV also occurs in low concentrations in saliva and in very low concentrations in tears. It has also recently been identified in breast-milk (Dr E. du Plessis, 1990, pers. comm.). It is transmitted from an infected person into the blood of another person through a break in an epithelium in the following ways:

* By penetrative sexual intercourse. (This is the most common means of transmission.)
* By intravenous drug users sharing needles. Needle stick injury of medical personnel is also a hazard (Farthing et al., 1988).
* From mothers to the babies they bear, either in the uterus across the placenta, or during birth from blood, or by breastfeeding — a rare cause of infection.
* By blood transfusion. Since all donated blood is now carefully screened, the chance of becoming infected with HIV from a blood transfusion is very slight (Dept. of National Health and Pop. Dev., Transvaal, 1989).

AIDS is not spread by casual body contact such as hugging, shaking hands, or dry kissing, nor by sharing the same toilet, swimming pool, or eating utensils as infected people. None of these activities permits the entry of one person's body fluids into the blood of another. It is also not spread by insects such as mosquitoes, nor by donating blood (Check, 1988).

Once inside the body, the HIV infects T_4 lymphocytes by inserting its genetic material into the DNA of the host cell (Gallo and Montagnier, 1988). The virus then enters a latent period which may be from 6 months to 15 years (5 to 9 years on average). During this period the infected person has HIV-carrier status and shows no signs of ill-health. It is not known what causes an HIV-carrier to develop full-blown AIDS. However, once AIDS has set in, death follows inevitably. In the USA, the average lifespan of a sufferer is 15,6 months (Dept. of National Health and Pop. Dev., O.F.S., 1989). Unlike other sexually transmitted diseases (STDs), AIDS does not affect the genital organs, but instead renders the body prone to a variety of opportunistic infections, which eventually kill the person (Redfield and Burke, 1988).

In the RSA the number of reported AIDS cases has increased exponentially from 2 in 1982 to 455 by 08.8.90. Tables giving information on the incidence and distribution of AIDS in RSA as on 08.08.90 are appended. Tables comparing the incidence of AIDS in RSA with the rest of Africa up to the end of 1988, and the projections for RSA up until 1995 are also appended (Appendix 1 pp 86—8).

Whilst there are very costly drugs which can slow down the progress of the disease, there is no drug that can cure it (Yarchoan et al., 1988).

At present, the main way in which the spread of the disease can be halted is through education. The aim of such education would be to change existing risky behaviours, or to establish patterns of behaviour in young people that will not leave them at risk of infection (Pinching, 1987). The need for AIDS education and the intention behind it is most succinctly defined as follows:

> Since 1981 when the first cases of AIDS were reported in the United States, we have witnessed an epidemic unprecedented in modern times. Yet the virus is almost always transmitted through behaviours that can be modified. Educational programmes that focus on these behaviours and how they can be changed will be effective in preventing the spread of AIDS. (Bock and Hoch, 1988, p22) (emphasis added).

It is not new to attempt to modify health-threatening behaviours. This has been tried, for example, with smoking and alcohol addiction. Despite the fact that these have been problems of a minority in society, to which sustained and specialised programmes aimed at breaking the addiction have been applied, there has been no guarantee of success — hence behaviour modification is not easy. Clearly AIDS is not a minority problem. This does not mean to say that all are equally at risk of infection, but that the degree of risk depends largely on personal behaviour. Because of the long latent period between infection with the human immunodeficiency virus (HIV) and the development of the fatal acquired immune deficiency syndrome, AIDS, infected people are not immediately evident. They cannot be identified and quarantined, as has been done during plagues and epidemics in the past. In any case, screening and isolation are considered a threat to the privacy and the liberty of the individual (Howe, 1990). Therefore, the only way of halting the spread of HIV infection is to teach people how to live alongside possible HIV-positives in such a way that they will not themselves become infected (Mann et al., 1988). This method of control concurs with the concept of a free and democratic society.

In South Africa, the need for effective AIDS education has been recognised at top level. Dr E.H. Venter, Minister of National Health and Population Development, told delegates to the AIDS Indaba in Pretoria, 27 November 1989, that the emphasis should be on "...the educational principles involved in the control of AIDS, with special reference to behavioural changes so necessary in any campaign against the disease" (Venter, 1989, p3).

The problem is that the **behaviours** that spread AIDS are surrounded by taboos and have not, until recently, even been considered as a subject suitable for frank and open discussion in the classroom (Wayling, 1988; Allensworth and Symons, 1989; Raymond, 1990).

2. Problems of AIDS Education

Some of the problems of AIDS education are:

2.1 Teachers' difficulties

Many teachers feel uncomfortable discussing human sexuality with their pupils (de Neergard, 1988). Others do not feel confident that their training as teachers or their knowledge and understanding of the AIDS epidemic is sufficient to deal with the questions of their pupils or to allay their fears (Allensworth and Symons, 1989).

2.2 Parental fears

Some parents fear that increased knowledge of human sexual behaviours will result in increased sexual activity by their adolescent children (Biehler, 1981). Thus they resist their children obtaining the very information they may need in order to stay healthy.

2.3 Religious objections

Some religious groups object to any teaching on sexual behaviour other than chastity and monogamy (Greathead, 1990; Raymond, 1990). This is an unrealistic approach which is frequently counter-productive, resulting in young people regarding AIDS as "just another threat invented by adults to curtail their (teenagers') independence and fun" (Masters et al., 1988, p138).

2.4 Inability or unwillingness to see AIDS as a personal threat

In a survey involving only black students, it was found that they "did not appear to perceive AIDS as an immediate or future problem in their township" (Mathews et al., 1990, p 513).

They tended to regard AIDS as the problem of others such as Whites or homosexuals. Despite the fact that 70% said they were sexually active, they did not feel that the need for safer sex practices applied to them.

Other people feel that as they are not part of a so-called "high risk" group such as homosexuals, prostitutes or drug addicts, they cannot be infected by HIV (Masters et al., 1988; Greathead, 1990). So denial of the need for AIDS education is also prevalent.

2.5 Influence of mass media

It is the view of the researcher that much of the information on AIDS is gained from the mass media. This view is supported by the AIDS Education and Counselling Task Group of the Medical Research Council (MRC) (1988) and by Aggleton et al. (1989). Since some reporting is misleading and sensational — *Horror Hospital,* in *You* magazine — (Findlay, 1990, February 22), and some presents scientific speculations of a very dubious nature — *Drugs may cause AIDS* — Marks, 1990, June 23), the information conveyed by the mass media could result in children developing misconceptions and prejudices that will be singularly difficult to alter (Ausubel, in Driver and Easley, 1978).

2.6 Ethnic factors

South Africa's population is heterogeneous, with several ethnic groups, each with its own values and traditions. These will directly affect the groups' perceptions of a disease like AIDS, which is spread by social human behaviour (Medical Research Council (MRC), 1988), namely sexual intercourse and customs such as circumcision if a communal blade is used.

2.7 Language

This is a multifaceted problem in the RSA.

2.7.1 Literacy levels vary among the different population groups, and also between urban and rural populations.

2.7.2 The terminology necessary in explaining some medical aspects of the disease may present a problem even for the literate. Yarber (1987) suggests that, since it is not essential for the avoidance of infection, difficult biomedical explanations should be omitted from an AIDS education course.

2.7.3 There may be diverse meanings in different ethnic groups in the RSA for phrases commonly used in AIDS prevention strategies. Cross (1990) states that in Uganda the phrase "safe sex" was understood to mean that adultery was acceptable. However, warning Ugandans to "love carefully" and to practise "zero grazing" were taken by them to mean safe sex practices (Mann et al., 1988, p 68).

2.7.4 No one language is the home language or language of instruction for all South Africans.

2.8 Finance

The cost of funding the research necessary to draw up educational programmes in schools and communities, and of implementing and administering AIDS education will have to be met.

3. The context of the research

From discussions with senior officials in the Cape and Transvaal Education Departments it became evident that there is a need for pupil-centred research as a preliminary to developing a programme of AIDS education in schools. AIDS education is relevant to every aspect of a child's development — physical, cognitive, affective, social and moral. There will indeed have to be a "combination of knowledge and ethics in education" (Opie, 1989, p 6) when teaching about AIDS.

The aim of this study was to find out about the **existing knowledge and attitudes** of two groups of pupils at four private schools in Grahamstown. One group consisted of all the boys and girls in standard 5 at the schools, and the other of all the boys and girls in standards 7 and 9. The researcher selected these two groups because they are representative of the stages in a child's progression to adulthood. The standard 5 pupils are representative of the transition from childhood to adolescence, while the standards 7 and 9 pupils are representative of adolescence and youth (Biehler, 1981).

The standard 5 pupils (median age 12 years) are moving from the latency stage into the genital stage, as defined by Freud (Biehler, 1981), when their attention becomes more focused on relationships with the opposite sex. However, there may well be wide differences in sexual knowledge and experience in this group (Tomaszewski, 1989). One reason, according to Tanner (1970, 1972), is that girls generally enter puberty about two years ahead of boys (in Biehler, 1981).

The standard 5 pupils are in their final year of junior school. They still have a particular class teacher who supervises most of their learning and on whom they depend. They must be made ready for the move into the less sheltered environment of senior school where they will have to depend more on their own judgment. They can no longer rely on others to set the standards by which they run their lives. The changes occurring in their cognitive and moral development make this move towards greater self-sufficiency possible.

Cognitively they are in the early stages of being able to use what Piaget (1969) describes as formal operational thought (in Phillips, 1981). They are able to consider possibilities and then to test them against past experience to determine their validity. They are better able to anticipate the consequences of their actions.

Morally they are moving from the morality of constraint when they are guided by an external authority equipped with a set of inflexible rules, into the morality of co-operation when there is an awareness of different points of view and a willingness to act in the interest of the common good (Piaget, in Biehler, 1981). Blatt and Kohlberg (1975) have found that this 12 year old stage is a significant one for advancing the learning of morals by discussion rather than by prescription (in Kohlberg, 1981). This view is supported by Sroka, who cites the 7th and 8th grades, when pupils are 12 to 13 years old, as providing the most "teachable moment" for AIDS education (in Sroka, 1988, p 42).

What this group already know and what they feel about the disease will provide the educationist with useful guidelines in tackling the task of educating them to cope with greater autonomy. Girls may need reassurance and support at this age with regard to fears of AIDS, while the curiosity and greater problem-solving ability that boys show could be exploited in teaching them the complex concepts associated with AIDS (Block, in Biehler, 1981).

The standard 7 pupils (median age 14 years) and the standard 9 pupils (median age 16 years) are both engaged in the basic task of adolescence, which Blos (1962) gives as being able to **discover** and **confirm** a particular "way of life" (in Biehler, 1981, p 523), but they are at different stages in it. Both sets of pupils are seen as being sexually aware, with the standard 9 pupils possibly being more confirmed in their sexual identities than the standard 7 pupils (Erikson, 1968, in Biehler, 1981). Some may even be sexually active. It is important to find out what this group knows and understands about AIDS, as teenagers are considered to be a highly "at risk group" (AIDS infection rate ... ,1989, October 9). Any misconceptions they still hold will provide important pointers for AIDS education.

Cognitively, their powers of reasoning and logic should be developing steadily (Piaget, in Phillips, 1981), and in their moral development, they should be building a set of values and ethics which, amongst other things, will enable them to achieve **socially responsible behaviour** (Havighurst (1952), in Biehler, 1981).

Though peer group influence on social relationships in terms of behavioural mannerisms and dress is very potent (Sears, in Biehler, 1981), values and attitudes are more often acquired "through long term contact with particular individuals" (Biehler, 1981, p 548) who have been consistent in expressing and reinforcing particular principles and beliefs. Parents and certain teachers at the senior school will have an important role to play in developing the values and ethics children need to cope with the existence of AIDS. In a boarding school situation, teachers may assume even greater significance.

An investigation of these two cohorts of adolescents should provide valuable information on their different levels of knowledge and understanding of AIDS, which will give direction in determining the scope and specifics of an AIDS education programme for these pupils.

Furthermore, "the who, what, when and how of HIV education are all issues that need to be thoroughly explored and discussed before implementing an HIV program" (Liontos, 1989, p 1). These issues, as well as the knowledge and attitudes of the two groups, were investigated using two questionnaires, one for each group. Information was also sought from standard 5 class teachers, guidance teachers and a sanatorium sister on any existing AIDS teaching in the schools. As a teacher of biology, the researcher was *au fait* with the sections of the biology syllabus where AIDS teaching could be done.

The context of the investigation is best set by first presenting an overview of educational strategies being used to teach children in other countries about AIDS, and then looking at the status of AIDS education in the various education departments in South Africa and in the self-governing states within South Africa's borders.

CHAPTER 2: AN OVERVIEW OF THE CURRENT STATUS OF AIDS EDUCATION IN SCHOOLS

1. Introduction

The information presented here was collected from books, journal articles, and from single topic issues of *Scientific American* and of *Hygie*. Abstracts and synopses in several issues of *AIDS Scan* were useful sources of information, as were articles and abstracts from *The Best of ERIC* (Educational Research and Improvement Clearinghouse, Oregon). Articles from AIDS information magazines, and from newspapers, as well as radio broadcasts, unpublished lectures and personal communications by conversation, letter and telephone with people involved in AIDS education in Israel, Zimbabwe and South Africa were used. Unfortunately, no printed material has been received from Zimbabwe to date.

The seminal article by the Task Force of the International Union for Health Education (IUHE) in *Hygie: the International Health Journal* (1988) gives the outline of the international policy for AIDS education. This policy, and that described by Mann (1988), head of the World Health Organisation's (WHO) Global Programme on AIDS, forms the basis of the school-based education in the USA and many European countries.

2. School-based AIDS education in selected countries.

2.1 USA

The USA, the country with the highest reported incidence of AIDS cases, has a well-financed, central educational strategy in place (United States: Congress: House Committee on Energy and Commerce, 1986). In March 1987, the United States Public Health Service published an Information/Education Plan to prevent and control AIDS in the United States (Kolbe et al., 1988). This focuses on four target populations, one of which is the school and college-aged population. The United States Centers for Disease Control (CDC) then launched a national programme of financial, organisational and technical assistance to promote AIDS education.

> About $11 million was provided for this programme in fiscal year (FY) 1987, and almost $30 million was provided in FY 1988. The programme comprises and integrates five broad strategies, including (1) national organization activities (2) state and local education agency programmes (3) demonstration and training centers (4) dissemination of AIDS education materials and (5) research. (Kolbe et al., 1988, p11.)

The intention was that the CDC guidelines (in Gillies, 1988; and in Kolbe et al., 1988) for school-based AIDS education would encourage school authorities to plan health education interventions which would help to halt the spread of AIDS. McCormick (1987) stated that the majority of school systems in the USA either had not started or had inadequately implemented AIDS education. This was echoed by Masters et al. (1988), and later by Raymond (1990). However in 1988, teaching about AIDS in the public schools of twenty-eight states and the District of Columbia became mandatory ("28 States in USA...", 1989; Liontos, 1989). In twelve of these states it is included in comprehensive health programmes, seven require it as part of their human sexuality/family life programmes, one adds it to the STD unit in the curriculum, and seven have no definite slot for AIDS instruction. Most of these states require this obligatory AIDS education to begin as early as the kindergarten level ("28 States in USA...", 1989). However, the adoption of any intervention of this nature is ultimately dependent on the individual communities and the schools they support. In their survey, Howland et al. (1988) found most early-adopter communities in Massachusetts had active and concerned individuals in positions of influence who used their authority to encourage the implementation of AIDS education in the schools. Other researchers have found retarding influences, particularly from religious organisations and individuals, because of specific aspects of AIDS education, such as the teaching of safer sex practices rather than abstinence only, which is regarded as being contrary to church doctrine and therefore morally wrong (Franklin and Dumanoski, in Raymond, 1990).

Howe (1990) maintains that the problems raised by AIDS education in the USA are not new but are the fundamental unresolved moral and political issues which constrain any curriculum, namely, **who** has the right to determine **what** and **how** we shall teach our children. Fineberg considers that the "basic fears and inhibitions that AIDS evokes are caused by its association with taboo subjects such as sex, blood, drugs and death" (Fineberg, 1988, p 106).

Fortunately, AIDS education in the USA does not appear to have become bogged down in these issues and there has been a "proliferation of educational materials" (Gillies, 1988, p 124). These include school biology textbooks such as the BSCS Green Version (1987), teaching programmes (Bock and Hoch, 1988; Sroka, 1988), and software, some of which has been evaluated (see Appendix 2 p 89). This software consists mainly of tutorials and questions on AIDS. There are also packages which give students practice in practical decision-making on personal sexual behaviour.

New teaching approaches have also been tried. High school pupils have been trained so that they are able to provide their peers with accurate information on AIDS whilst also teaching them such skills as decision-making and how to cope with peer pressure. This strategy has met with an initial positive response from teachers and parents as well as the adolescents themselves (Gillies, 1988; Liontos, 1989). 'The Wedge AIDS Education Project' of San Francisco (in Gillies, 1988, p 123) amongst other things, promotes 'face-to-face interaction' between an AIDS sufferer and teenagers at school to foster compassion and understanding for those with the disease. A national information campaign using TV, billboard posters and pamphlets has targeted adolescents and their parents in an effort to encourage them to learn together about AIDS in order to promote preventive behaviours (Gillies, 1988).

Some research into, and evaluation of current programmes is being done (Howland et al., 1988; Miller and Downer, 1988) but Gillies (1988) maintains that this is not keeping pace with the prolific interventions, many of which are produced in response to the need to get something going quickly. Raymond (1990) states that funding for AIDS interventions and research is inadequate. Fineberg (1988) points out that expenditures on AIDS grew from $60 million in 1984 to $900 million in 1988. However only $30 million of this was earmarked for AIDS education in 1988 (Kolbe et al., 1988).

Nevertheless, there is both commitment and action in the Federal and local organisations for preventing the spread of AIDS amongst the school-going populations in the USA.

2.2 Great Britain

In early 1986, a saturation campaign of AIDS information and safer sex practices was launched using media advertising as well as posters in railway stations and pamphlets delivered to homes. This campaign was found to increase knowledge of AIDS among the general public, but the sexual behaviour of heterosexuals was little changed (Wayling, 1988). It was also meant to provide a framework for longer term interventions by schools and other health and education institutions.

Dr. E.H. du Plessis, M.O.H. of Port Elizabeth (Holden, 1990) reports from a firsthand examination of the structures promoting AIDS awareness, that Britain has a well-structured health education system which begins at pre-school level and provides information and guidance to the children throughout their schooling. 70%-80% of British teachers have had training in the teaching of the programme.

In the *Times Education Supplement* (Surkes, 1986) it was reported that Welsh schoolchildren would be given lessons on AIDS, the target group being Fifth and Sixth Formers — 17 to 18 year olds. In agreement with the principle that the community should be kept informed of school-based AIDS programmes (Sroka, 1988), parents would have the lessons taught to them in the evening. However, considering that the health education system is in place from pre-school level, to defer instruction on AIDS until pupils are 17 to 18 years old at best suggests timidity, at worst a lack of real appreciation by the educational authorities of the urgent need to provide this information early and repeatedly (Scholz, in Liontos, 1989). In two recent surveys of 14 to 16 year old subjects in London (White et al., 1988) and West Dorset (Beckers and Dlugolecka, 1987), it was found that few had had formal teaching on AIDS (Beckers and Dlugolecka, 1987) and few gave school as their major source of information (White et al., 1988).

If teachers are to operate successfully, even if it is only at the level of information giving, constant updating of medical facts about AIDS, the continuing research to find a cure and the prevalence of AIDS should be made readily available to them. The *School Science Review* (a journal widely read by teachers of biology and science, who it is reasonable to assume should form a source of scientific/medical information for their students) has carried only one article on this topic between 1985 and 1990. This article by Pinching (1987) was, in the first instance, written for the benefit of magistrates, not educators. The efficiency of information dissemination to teachers in Great Britain is perhaps open to question.

Gillies (1988), in comparing some aspects of AIDS education in Great Britain with those in the USA, pointed out that the British educational system did not have the benefit of guidelines similar to those drawn up by the CDC in the USA. So the situation in Great Britain would seem to be that the intention is to provide AIDS education for the school-going population, but that, as Gillies (1988) suggests, implementation is left as the responsibility of individual school authorities and perhaps they do not always intervene with the vigour that the situation warrants.

2.3 Europe

Wayling (1988) presents an overview of the AIDS education of several European countries in *Hygie*. However, most of the programmes were for the population at large, and therefore are not reported on here. The school programmes in Denmark, a Scandinavian country "where social tolerance is the norm" (Wayling, 1988, p18), were seen to be somewhat

different; and both Wayling (1988) and de Neergard (1988) have described them. Danish school programmes on AIDS focus on developing positive and tolerant attitudes in young people. Teachers are trained and encouraged to explain the problems associated with AIDS, and the types of behaviour that offer some protection, frankly and explicitly. De Neergard (1988) stresses that relaxed and open contact between counselling teacher and students is seen as being conducive to learning about AIDS. Teachers are urged to use humour to help to create this favourable atmosphere.

A wide variety of teaching aids and methods is used. These include inviting HIV-positives to speak to the pupils. Parents are also involved in deciding the school's programme. Several opinion polls have shown that this explicit teaching on AIDS, lightened with humour, is acceptable to the majority of the community (de Neergard, 1988).

Other European countries such as Portugal and Russia have incorporated AIDS education into existing sex/health education programmes (Wayling, 1988). However, in *AIDS Health Promotion Exchange* (1990), doubt is cast on the adequacy and efficiency of the programme in Russia. Polish education authorities admit to their programmes being inadequate and their teachers being poorly informed (Wayling, 1988).

2.4 Israel

AIDS education is included in all teacher-training courses and forms part of the school curriculum (Dr and Mrs B. Hofshi, 1990, pers. comm.). Attempts to follow up the situation on AIDS education in Israeli schools were not successful.

2.5 Africa

In some African countries, e.g. Zambia, schools are beginning to assume an important role in disseminating information on AIDS.

2.5.1 Zambia

"In October 1987, the president of Zambia announced that his son had died of AIDS" (Fineberg, 1988, p 112). By 1988, 190 000 booklets on AIDS had been sent to secondary schools and 100 000 leaflets to primary schools. The information on AIDS was suited to each age group. For children in Grades 5 to 7 (11 to 14 year olds) an effort was made to make them feel comfortable with the topic by using a folk tale character to introduce it (Baker, 1988). An

interesting development in 1987 was the starting of an Anti-AIDS club in one school at the initiative of a student. The intention was to create a supportive but relaxed atmosphere for those students who have opted for chastity, as well as to take information on AIDS to others by means of plays and songs. By 1988, twelve other clubs were being started (Baker, 1988). However, the researcher was unable to obtain any description of an ongoing national policy for schools from any source.

2.5.2 Zimbabwe

AIDS was first diagnosed in Zimbabwe in 1983 and by March in 1990, 2 375 cases of AIDS had been confirmed, so the exponential growth of the disease in this immediate northern neighbour is considerably faster than in the RSA. Recently, the President of Zimbabwe launched a nation-wide AIDS awareness week (Report on Zimbabwean ... , 1990, November 26) but no mention was made of the role that schools would play. The Family AIDS Caring Trust (FACT) has developed AIDS education materials such as a question-and-answer booklet, and flash cards to be used at primary and high school levels (in AIDS Promotion Exchange, 1990). Greathead (1990) reported that a study amongst rural and urban pupils in Zimbabwe has shown that if condom usage was introduced as being responsible behaviour and if students were allowed to familiarise themselves with condoms by handling them in class, the message had greater effect. However, despite letters and phone calls to a community health worker, the researcher was unable to obtain up-to-date information on any Zimbabwean programmes for schools.

2.6 Conclusion

The USA has arguably the most to offer the RSA by way of general guidelines, programmes and material on school-based AIDS education. However, an awareness needs to be maintained that any programmes that are implemented will need to be adapted and evaluated to ensure that the message is being understood and that the needs of particular local communities are being met (Konotey-Ahulu, 1989).

3. AIDS Education in the RSA and the Self-governing and Independent States.

Seventeen education departments and seven regional offices of the Department of Education and Training (DET) were sent a letter, under cover of a *bona fide* from Prof. R. Tunmer, Dean of the Faculty of Education, Rhodes University. (See Appendix 3 p 90 for a complete list of Departments, and Appendix 4 p 91 for a copy of the letter sent.) The following information was

requested:

* a statement of the Department's policy on AIDS education;
* a copy of any teaching programme(s) on AIDS that the Department might have drawn up;
* a list of schools in which a teaching programme on AIDS had been implemented;
* a brief evaluation of the effectiveness of the AIDS education implemented;
* any further information on AIDS education that the respondent might deem relevant.

It was also requested that if **no** policy or teaching programme had been developed, this should be stated.

The first posting was not registered. The final follow-up letters were registered. Replies were received from all the Departments. Only two Regional Offices of the DET, which is responsible for black education in the RSA, did not reply.

3.1 Summary of Responses from the Various Education Departments

All the information supplied here has been extracted from letters and documents sent by the respondents for each Department in reply to the researcher's letter.

3.1.1 Department of Education and Training: Black Education

A reply was received from Head Office, Pretoria, but, to date, the information requested has not been supplied. Of the five responses received from Regional Offices, three indicated that no formal policy for AIDS education had been drawn up but that it was a matter of concern in the Department.

3.1.2 House of Assembly: White Education

A. Cape Province

Policy: No details of an ongoing policy were given, but the need for AIDS education has been recognised.

Teaching programme:

* It was stated that this 'sensitive' problem is addressed under the departmental guidance programme in the section on STDs.
* In May 1990, a quarter of a million circular letters, together with an AIDS information brochure compiled by the Department of National Health and Population Development, were sent to **parents** of all pupils at all high schools in the Cape Province, asking them to decide what to tell their children.

Schools involved: All senior schools under the Department in the Cape Province.

Evaluation of the programme: None was mentioned.

B. Orange Free State

Policy: The Executive Director of Education has given permission "for lectures on AIDS to be included in the Youth Preparedness Programme . . . by a body of teachers specially selected and trained (in-service-training) for this purpose."

Teaching Programme: These are some of the activities suggested by the department. Using information supplied by the Department of Health, medical facts on AIDS and its transmission should be taught. The incidence of HIV infection and AIDS in the world and in the RSA, and future trends and projections are also to be given. The implications of the disease (socio-political, demographic and economic) as well as the loss of workers and increased incidence of TB should be considered. The social and moral implication of AIDS should be outlined with the message being given that, in brief, the only safe sexual relationship is monogamy in marriage; promiscuity is risky, and condoms give some protection for those who are sexually active.

All schools have been sent an AIDS lecture compiled by Dr I.S. Pretorius based on the facts given above and including more detail of high risk behaviour e.g. effects of drugs and alcohol in reducing self-control, and warning against child abuse by adults. Pupils are to be advised that condom usage is not fail-safe. The Biblical norm should be offered as a basis for human behaviour. All Secondary schools should have a teacher trained in AIDS education (Dr I.S. Pretorius, 1990, pers. comm.).

Schools involved: Involvement is voluntary but all schools receive information for pupils from Std 3 to Std 10.

Evaluation of the programme: No long term evaluation has been done, but a possible indirect benefit is that fewer teenage pregnancies have been reported.

C. Transvaal

Policy: The Transvaal Administration sees its task in AIDS education as an issue to be tackled at three levels, and to this end they have organised as follows:

* **A Deputy Superintendent of Education,** in each of eight regions, is responsible for the Family Guidance programme which includes STD information for Std 5 upwards.
* Schools have **a Family Guidance programme** in operation.
* There is **individual** counselling of pupils by tutors or guidance teachers.

Teaching programme: This is an integral part of Family Guidance. The content is as follows:

* **Gr. 1—Std 5:** The youngest pupils are simply to be reassured that AIDS is not their problem while the Std 3—5 pupils should have their queries answered factually. All children are to be guided towards positive and norm-oriented attitudes.
* **Junior and Senior Secondary**: This programme also offers the medical facts of AIDS including the effect of HIV virus on the body, and how the disease is transmitted. Misconceptions e.g. how AIDS is **not** transmitted, and that donating blood is absolutely safe, should be dealt with. Pupils should be informed that condom usage does not guarantee safety, and their usage should not be recommended by teachers. Normative aspects are also dealt with and include cultivation of lifestyles based on high moral standards, chastity before marriage, and fidelity in marriage providing the ideal sexual relationship. Masculinity/femininity and sexuality should be shown to be good and normal. Extra-marital sexual relations, adultery, homosexuality, prostitution, and rape are to be defined and discussed with biblical support for their undesirability. The right to personal space, the concept of forgiveness of sins and not judging others (tolerance towards AIDS sufferers) are to be presented. Finally, the need to choose the right friends should also be emphasised. Each school should have a male and female teacher trained in AIDS education. It was recommended that sexes should be instructed separately on AIDS.

Schools involved: All schools under the Department in the Transvaal.

Evaluation of the programme: None has been done.

D. Natal

Policy: Education on AIDS is part of the STD information included in the ongoing and comprehensive Guidance and Family Life education programme.

Teaching programme: All the medical facts of the disease, including transmission, should be taught. The economic and political implications of AIDS as well as moral and ethical issues should be discussed. Schools are encouraged to adopt cross-curricular approaches which suit their needs and views and those of the parent community. The department has supplied schools with information on AIDS in the form of pamphlets and up-to-date articles. The work of Dr J. Tomaszewski (1989) of the Durban City Health Department, which includes guidelines for a programme of sex education for young people, is strongly recommended.

Schools involved: No list was supplied.

Evaluation of the programme: This is not conducted formally.

3.1.3 Administration: House of Delegates: Indian Education

Policy: The Department has approved in principle the extension of Sexuality and AIDS education. The urgency for intervention has been perceived and to this end two strategies are in place.

* **Short term:** Selected school counsellors, guidance teachers and school psychologists are to be trained by the Durban City Health Department: AIDS Training and Information Centre, so that AIDS education can be phased into Guidance classes. An AIDS awareness campaign for teachers, pupils and parents was planned by the Department using brochures and posters.

* **Long term:** AIDS education should form an integral part of Sexuality and Family Life education. The Department has set up a committee of representatives of various subject disciplines and sections to investigate how it can be integrated into other school subjects.

Teaching Programme: Currently, the department arranges for medical and nursing personnel to address senior pupils on sex education topics. For some topics, the sexes are taught separately. In Durban and surrounding areas, health education is provided by Durban City Health Services. Nurses of the Department of Health and Welfare visit schools in outlying areas.

Schools involved: No list was supplied.

Evaluation of the programme: This has not been carried out.

3.1.4 Administration: House of Representatives: Coloured Education

Policy: Education Circular 28 April 1988 which was sent out by the Directorate stated the following:

* The threat of AIDS was clearly acknowledged, and the Department saw it as its duty to make certain information available to all principals of secondary schools and primary schools with a Std 6, the purpose being to draw attention to the danger attendant on casual and extra-marital sexual relationships for the school-going youth.

* Principals were requested to assign a responsible teacher to "handling this delicate matter" in one or two periods, possibly guidance periods. Principals were requested to give this matter urgent attention.

Teaching Programme: The information supplied to schools included medical facts on AIDS and its transmission, as well as its possible origin and incidence. The essential message was the need for prevention.

Pupils are to be advised against promiscuity and to practise safe sex by using a condom.

A lesson scheme for pupils of 13 years old and over was supplied, the objective being to inform the pupils and make them aware of the dangers of AIDS. Pupil participation by way of discussion and assignments was to be encouraged. Teaching aids such as posters, slides and take-home brochures were offered to the schools.

Schools involved: All secondary schools and primary schools with a standard 6, i.e. all pupils from standard 6 upwards.

Evaluation of the programme: None has been done.

Additional Information: The Department of Health and Population Development had organised a seminar on AIDS prevention in schools for officials of the Department on 01.12.89, and a symposium on AIDS prevention for guidance teachers on 10.09.90.

3.1.5 Self-Governing and Independent States

In **Ciskei, Lebowa** and **Qwaqwa**, no programme of AIDS education has been introduced in the schools.

In **KwaNdebele, KwaZulu** and **Gazankulu**, AIDS is of grave concern to the community and the Education Department liaises with the Department of Health but, as yet, no teaching programme has been drawn up.

In **Kangwane** and **Venda**, school education on AIDS is managed by the Department of Health. The Kangwane Education Department is introducing a course on sexuality education in 1991 and this contains information on AIDS.

In **Transkei** the moving force appears to be Dr G. Solledêr, Secretary General of Health, who has constituted an Advisory Committee on AIDS and STDs, and this has an Education representative.

On 9.8.90 an AIDS Seminar was held in Queenstown to enlighten everyone concerning a code of living that removes the risk of spreading the HIV virus. From this meeting a suggested Departmental policy was drawn up which advocated close liaison between the schools, the Department of Education and the Department of Health.

However, Transkei has no stated education policy or ongoing teaching programme. AIDS education tends to be regarded as a health matter. A list of schools visited by nurses from the Department of Health was supplied.

In **Bophuthatswana**, whilst there is no institutionalised teaching on AIDS, health teams visit schools on a regular basis to conduct health education on a variety of topics of which AIDS is one. A member of the Education Department is a member of the National Advisory Council on AIDS.

The Department of Health and Social Welfare has conducted a general survey on AIDS knowledge and attitudes in Bophuthatswana, while the Department of Psychology at the University of Bophuthatswana is conducting the same survey in schools. The results are being processed.

Summary

Overall, in the self-governing states AIDS intervention appears to be being handled by the Department of Health and not the Department of Education. Some schools are obviously being visited by nurses or medical teams, but the approach is piecemeal. There are concerned and active individuals who are trying to involve and inform school personnel on AIDS.

3.2 Discussion

3.2.1 The **need** for AIDS education is generally recognised by the white, coloured and Indian education authorities. In black education, which is currently in crisis, there is no policy in place to deal with this issue. The replies from three regional offices indicated the presence of concerned individuals within the DET. This is something which is perceived as an important, possibly essential, prerequisite for the initial adoption of an AIDS education programme by Howland et al. (1988), and from the experience of Dr K.M. Baker in Zambia (1988).

In the self-governing states, the situation appears to be similar to that in the DET: AIDS is treated as a health matter rather than an educational one. The research being done in Bophuthatswana could provide an impetus for educationists to draw up programmes which could be evaluated against these base-line findings.

3.2.2 The Department of Health has arguably as important a role to play in educating school children on AIDS as has the Education Department. In a survey conducted by Hingson et al. (1990) in Massachusetts USA, it was found that adolescents were more likely to modify their behaviour in order to be less at risk if they had consulted their doctors on AIDS than if they had not. Black and Indian pupils appear to be getting most of their AIDS education from nurses. Mathews et al. (1990) found that more black pupils chose a nurse as the person they perceived as best to teach them about AIDS. Perhaps someone who is medically trained and not involved in the day to day discipline of the pupils is seen as being better informed and less prescriptive when it comes to discussing the sexual behaviour necessary to prevent AIDS.

3.2.3 Unlike Europe and America, the educational interventions to prevent the spread of HIV in South Africa are not derived from the central policy of the WHO and IUHE (1988). Instead AIDS education has developed as an "own affairs" matter due to the fragmentation of South Africa's education system. This has resulted in some excellent programmes being used by relatively small sections of the population, and replication of effort by several departments. It would seem that a central planning and advisory committee similar to the CDC in the USA should be established by means of a close liaison between the Department of National Health and Population Development and the Department of Education, to draw up a central policy to combat the spread of AIDS.

3.2.4 Research is needed to evaluate teaching programmes currently in use in South Africa. Programmes that have been tried and tested in other countries should be obtained and tried here. This will "reduce the time and cost in designing programmes from scratch" (Greathead, 1990, p15). Baker (1988), from her involvement in the Zambian project, concludes that much of the material used in Western countries is not suitable for African children.

Pupil-centred research is needed to develop materials and programmes suited to the age of the children and in harmony with their cultural traditions and values, yet still effective in enabling the children to protect themselves against the infection.

3.2.5 No mention was made of liaison with the workplace. Excellent courses to inform on

AIDS and to help people to understand what constitutes safe behaviour and how to work alongside of HIV-positives have already been put into practice by at least one large firm in the RSA (SABC Broadcast at 7.40 am on 90.11.16 "AIDS — will your business survive?"). These programmes include having an AIDS sufferer speak to employees and management to make the presence of AIDS in this country a greater reality and to foster compassion and tolerance. This strategy has been used with school-going teenagers in the USA (Gillies, 1988), and in Denmark (de Neergard, 1988).

3.2.6 None of the replies from education departments made mention of an on-going training system for teachers. Great Britain, Denmark, Israel and the USA could teach us here. McCormick and Keogh (in Liontos, 1989) recommend that **all** staff be trained, not just those likely to be involved in formal instruction on AIDS. Both in-service and teacher-training programmes are needed.

3.2.7 Of immense significance for the RSA is the importance that many of the countries and states surveyed attach to making AIDS education a community matter (McCormick, 1987; Sroka, 1988; Liontos, 1989). The idea of teaching parents in the evening the same lessons as their children had in the day is a sound one (Surkes, 1986). Parent teacher associations and various civic and church associations should be involved in AIDS education. Sending parents information and asking them to pass it on to their children, as was done by the Cape Education Department, is a good idea, but it needs to be supported by training parents to deal with the topic (Gillies, 1990).

3.2.8 The most important message that comes through is that there is an urgent need for ongoing and effective interventions to be put into action throughout South Africa. The pattern of the South African AIDS epidemic is following that of the USA though it is generally accepted that it is some way behind (Cross, 1990). In the USA, "by June 1988, there had been 65 000 cases of AIDS of which 36 000 individuals had died" (Farthing et al., 1988, p7). The incidence of HIV infection in the USA is considerably higher. By 1992, the WHO projection is 425 000 AIDS cases in the USA. In South Africa, heterosexual transmission is increasing, particularly among the Blacks and young adults. (See Appendix 1 pp 86—88). 20% of AIDS cases in the RSA as of 08.08.90 were in the 20-29 year group, suggesting possible infection while still teenagers.

Achieving behaviour change is complex and difficult (Mathews et al., 1990). It would seem sensible to begin AIDS education for children **before** behaviour patterns are set (Pinching, 1988) in order to establish appropriate behaviours, and then to continue to offer support throughout the child's schooling, suitable for each developmental level (Hoch and Bock, 1988; Sroka, 1988; Schurink and Schurink, 1990). The need for early and ongoing intervention has been recognised by several Education Departments. The cross-curricular approaches suggested by both the Natal and the Indian Education Departments would enable the pupils to get a wider perspective of the effect of AIDS on their lives.

CHAPTER 3: RESEARCH PROCEDURES

1. Introduction

"...the practice of education is better helped by ... analysis of what children and students find most meaningful and engaging." (Egan, 1982, p 163.)

The identification of pupils' current knowledge and conceptions of AIDS and their feelings about this disease is particularly important when educational intervention has been identified as the most important means of halting the spread of this incurable and ultimately fatal disease (Chin and Mann, 1990; Mathews et al., 1990). These areas were surveyed in the standards 5,7 and 9 pupils at four private schools in Grahamstown. Several issues pertinent to an AIDS education programme for these pupils were also investigated. The following research methods were used:

* A pilot study — to determine adolescent perceptions of AIDS.
* Two self-completion questionnaires for pupils — the main survey.
* A self-completion questionnaire for teachers involved in administering or organizing health education programmes which include teaching about AIDS.

2. Pilot Study

In 1989, this investigation was carried out during class time. The intention was to find out what sort of questions adolescents were asking about AIDS. This information could then be used by the researcher as a basis for drawing up the questions for a questionnaire which could be used to survey a larger and more disparate sample.

The subjects were a standard 8 class of six girls and twelve boys from two co-instructional senior schools. They were asked to divide themselves into four groups of four or five. Each group was provided with newsprint as a scratch pad, and four or five differently coloured thick felt tip pens. They were given five minutes of free discussion, at the end of which time they had to have written on the newsprint the four questions which asked what they most wanted or needed to know about AIDS.

Pooling of the questions showed a high degree of concurrence.

The four questions were:

* What is AIDS? (medical facts).
* How do you get AIDS? (methods of transmission).
* How do you not get AIDS? (separation of facts and misconceptions).
* How do you protect yourself against AIDS? (safe or low risk behaviour).

One group, composed entirely of girls, had formulated questions one and four but had combined questions two and three into a single question and then asked

* How do you behave towards AIDS sufferers? (attitudes).

The class was then shown two videos. These were "The Promiscuous Parasite, part I" (BBC production) and "AIDS — only a world-wide effort will stop it" (WHO production).

Using information from these videos and from informal discussions with the researcher, each group gave a poster presentation using not more than six sentences to answer the four questions they had posed. No pre- and post-test was carried out, as the intention was not to discover if this was an effective method of increasing knowledge and understanding of AIDS, but to give the researcher an opportunity to discuss this topic with adolescents in order to get the information required to draw up appropriate and sufficiently comprehensive questionnaires which could be used in the larger survey.

3. Sampling

In terms of sampling, these were the issues that needed to be considered:

3.1 Sampling method — that this was both purposive and convenient and provided a suitable number of subjects.

3.2 Subjects — the composition of the sample in terms of the subjects' sex, race and language competency.

3.3 Schools — features of the schools, some of which were atypical of most South African schools.

3.1 Sampling method

The subjects were chosen **purposively** (Cohen and Manion, 1985) in that they fulfilled various developmental criteria as discussed in Chapter 1. Standard 5 pupils are at the stage

in a child's life when they are about to enter high school. Some are still in childhood while others, particularly the girls, have entered puberty. Standard 7 and 9 pupils have all reached various stages of sexual and social maturity, but all are adolescents.

The sampling method was also a matter of **convenience** (Cohen and Manion, 1985). The pupils at the private schools were easily accessible to the researcher. They provided a captive group as the questionnaire could be administered during class time, and hence the problem of a low return was avoided.

Because the sampling method was **not random**, and therefore cannot be said to be representative of the school-going community as a whole, no attempt was made to make generalisations from the results obtained from the survey.

The **size** of the samples for the different standards was large enough to allow comparative statistical analysis, but not so large that any of the standards 5, 7 or 9 pupils had to be excluded to make the numbers manageable. In standard 5 there were 76 respondents; in standard 7 there were 167 respondents, and in standard 9 there were 188 respondents.

3.2 Subjects

3.2.1 **Sex.** In standard 5 there were 37 males and 39 females. In standard 7 there were 95 males and 72 females. In standard 9 there were 119 males and 69 females.

3.2.2 **Race.** As the schools are non-racial, in the standard 5 group there were 58 white pupils, 15 black pupils and 3 pupils belonging to other race groups. In the standards 7 and 9 group there were 270 white pupils, 60 black pupils and 13 pupils belonging to other race groups. These subjects enabled the researcher to determine possible differences in the responses according to race. To simplify the analysis, it was decided to disregard the small number of pupils belonging to other races and to focus on a comparison of the responses of black and white pupils. This could provide some insight into any existing cultural differences which should be catered for in an AIDS education programme for these children.

3.2.3 **Language.** All the respondents received tuition through the medium of English and were familiar with its usage in daily parlance. Thus, despite the fact that 84 out of a

total of 439 respondents for both groups indicated a home language other than English, language should not have influenced the results.

3.3 Schools

The sample was taken from four private schools:

* A co-educational school with a junior and senior section.
* An all girls' school with a junior and senior section.
* A junior boys' school.
* A senior boys' school.

Within the single sex schools, the boys and girls are educated separately up to standard 7. Thereafter, all lessons are received together and the schools are termed co-instructional. Since these are all private fee-paying schools, most of the children come from well-to-do, middle class homes. An analysis of parents' occupations showed fathers were mainly in business, or professionals or farmers. The mothers were mainly housewives or in business, or professionals. Fewer than 1% gave the father as being unemployed or retired.

Since there is a high proportion of boarders in the sample (75,9%), many respondents spend long periods during which they interact with peers only, and not the family. The influence of peer behaviour and attitudes, therefore, may be higher than normal. Also, the adults with whom they interact during term time are mainly their teachers and hostel supervisors, and not their parents.

4. Using the Questionnaire as a Research Tool.

This will be discussed in the following sequence:

4.1 The nature of the inquiry.

4.2 The need to maintain the anonymity of the respondents.

4.3 Checks of validity.

4.3.1 Convergent validity — finding out what AIDS education is on offer in the schools.

4.3.2 Time triangulation — using standards 5, 7 and 9.

4.4 Using the results from the questionnaire for comparisons.

4.1 The Nature of the Inquiry

The type of research done was *ex post facto*. The independent variables of the home and cultural backgrounds of the pupils, the type of education provided by the schools and any AIDS education programme in particular, the information supplied by the mass media, and the children's parents and peers have all made their input on the subjects in the sample. The varying stages of sexual maturity, and the establishment in their sex roles of the subjects (Freud; Erikson, in Biehler, 1981), as well as their cognitive development (Piaget, in Biehler, 1981), should all have had an effect on the subjects' perceptions of the immediacy and magnitude of AIDS as a personal threat.

What was to be investigated was the accuracy and extent of knowledge of AIDS that the pupils had acquired. The possible fears, as well as the prejudices or the tolerant attitudes that the subjects might have developed towards the disease and the people stricken with it, were also a subject of inquiry. A survey using questionnaires offered the best way to collect data from which hypotheses might be generated. These hypotheses could form the basis for further pupil-centred research on AIDS education (Cohen and Manion, 1985).

4.2 The Need to Maintain the Anonymity of the Respondents

The use of a questionnaire to obtain data, rather than a structured interview, ensured that the respondents were able to remain anonymous. With this research there was a particular need for the respondents to know that their anonymity would be maintained, not simply because of the nature of the topic, but also because of the position of the researcher as a biology teacher at both the senior boys' and the senior girls' schools. It was appreciated that as the researcher was well known to a fairly large proportion of the standard 7 and standard 9 pupils, some of the pupils could have responded in a way more to provide the answers that they felt might be expected of them rather than to state their honest feelings, opinions or preferences. This would affect the validity of the results.

To find out if the fact that the respondents were completely anonymous had been sufficient to counter this possibility, the responses from the schools where the researcher was well known were statistically compared to the responses from the co-educational school where she was not well known. Of particular significance were the responses to the open-ended questions which probed the attitudes and feelings of the respondents. Statistical comparison

according to schools showed no significant difference in these responses. In the questions which asked for the details of the AIDS education the pupils would like to receive, no difference was shown, except that all the pupils (100%) at the schools where the researcher was based indicated that how to avoid getting AIDS should be included in the course compared to 95% of pupils from the co-educational school. In the responses to the knowledge questions, respondents from the schools where the researcher was based chose the don't know (uncertain) option significantly more frequently than the respondents from the other school. This choice does not seem to indicate an attempt either to please or to obstruct the researcher. It could be that, for some reason, the instruction given by the supervising teacher to use this option rather than to guess, was taken more seriously by these respondents. Thus, maintaining anonymity appeared to be successful in avoiding bias due to the researcher's position in two of the schools.

4.3 Checks of validity

4.3.1 Convergent validity

A weakness of a questionnaire is that respondents may not take it seriously, and may simply attempt to answer it as quickly as possible, with little thought (Cohen and Manion, 1985). However, by comparing the reports of the teachers on the availability, scope and length of existence of AIDS education in the schools with the results from the pupils' questionnaires, this should have provided a type of "convergent validity" (Cohen and Manion, 1985, p302). The teachers and pupils were two groups of people in the same situation, each with different viewpoints. If the pupils' responses in no way reflected the amount of information the teachers said they had been given, this might suggest that the pupils, as a group, had not taken the questionnaire seriously.

4.3.2 Time triangulation

Within an *ex post facto* research framework, it is not possible to manipulate the independent variables in order to investigate possible cause and effect relationships (Cohen and Manion, 1985). However, by selecting a sample with three different groups of pupils all at different stages in their progress through school — one group still at junior school, one in the junior stage of high school and one in the senior stage — a form of "time triangulation" was provided (Cohen and Manion, 1985, p262). If

indeed the school has an ongoing AIDS education programme in operation, the higher the standard at which the children were in the school, the greater the amount of AIDS education they should have received. The accuracy and extent of the pupils' knowledge should reflect this progression. Their attitudes might also show differences in tolerance and understanding of the situation created by the AIDS epidemic, according to the cohort to which they belong.

4.4 Using the results from the questionnaire in comparisons

As stated above, the responses of the different cohorts were compared according to standard.

In order to determine if the different cultural values and traditions of an ethnic group could have made any difference to group perceptions of AIDS, the responses of the black and white pupils in the sample were compared. It was appreciated that ethnicity might well be neither the sole cause, nor indeed a true cause, of any difference in the way two different ethnic groups responded to the questions.

Another possible filter of information on AIDS could be the type of social conditioning that the boys and the girls had received as they matured into their sex roles in society (Block (1973) and Fagot (1978), in Biehler, 1981). Thus the responses of the boys and girls in the sample were also compared to determine any differences in their knowledge and attitudes.

5. Designing the Questionnaires

5.1 Questionnaire A for standards 7 and 9 pupils

The complete Questionnaire A is appended. Appendix 5 on pp 92—5.

5.1.1 Questions

It was assumed that standard 7 and standard 9 respondents would have a base-line knowledge of AIDS, i.e. it is an infectious, incurable disease. Thus, mainly closed item questions were used. Some open-ended responses were included to avoid superficiality and to give respondents the opportunity to express their own beliefs and opinions.

The questionnaire consisted of four sections. Sections 2, 3 and 4 were devised from information obtained from the pilot study.

Section 1. **Personal details** of the respondents which might be relevant for cross tabulation, and for providing a description of the subjects.

Section 2. What you already **know** about AIDS.

Section 3. **Attitudes** to AIDS.

Section 4. **Learning** more about AIDS.

Section 2:

The knowledge questions were asked in order to get a Yes, No, or Don't know response. At the end of this section they were asked how, up till now, they had obtained information on AIDS. There were five areas of knowledge that were tested, namely:

* translation of the acronym AIDS
* identification of the ways in which AIDS is and is not transmitted
* identification of dangerous body fluids
* selection of the host cells of the AIDS virus
* identification of the overall effect of the AIDS virus on the body.

By beginning with the identification of the acronym AIDS, it was hoped to make the respondents aware of what the questionnaire was all about and to stimulate interest. Assuring them that spelling did not matter was an attempt to try to remove the research from the school context and to make them feel more relaxed.

Section 3:

The attitude questions involved asking respondents the following:

* to identify three major worries about AIDS from five possibilities. It was considered asking the pupils to select only one fear, but it was decided that this would not provide enough information. Ranking the five fears was felt to be an artificial exercise as several worries might be considered of equal concern to the respondent.
* to answer two open-ended questions allowing an opportunity to express beliefs, opinions or fears.

* to consider an hypothetical situation and predict how they would respond to it. They were given Yes/No/Not sure options. The phrase 'Not sure' was used instead of 'uncertain' as it is common usage. If the respondents felt that the options offered did not adequately suggest how they would react, they were given an opportunity to comment further.

As recommended by Cohen and Manion (1985), the open-ended questions were restricted mainly to this middle section of the questionnaire.

Section 4:

The questions investigating where, when, how, from whom and what they would like to learn about AIDS were mainly closed items which included:

* a place choice from four options;
* an age choice from nine options, asking them to give the reason for their choice of age.
* six choices from significant people in their lives, e.g. parents, peers and teachers, involving two options, as well as 'both' and 'neither';
* four choices from two different ways in which information could be transferred to them, each with a 'both' and 'neither' option;
* nine choices of topics for possible inclusion in an AIDS education course, with an opportunity allowed for further comment.

This final group of closed questions for Questionnaire A should have sustained interest, as amongst the possible topics were very relevant as well as some controversial topics (Cohen and Manion, 1985).

At the conclusion the respondents were thanked for helping in the research.

5.1.2 **Design of the Questionnaire A**

Throughout, the language was kept simple and the questions short. Open-ended responses were expected to be brief; and to encourage this, only three lines were allowed for each response. Respondents were given clear instructions with each question on how it was to be answered, e.g. put one tick per line to show your answer. This design should make allowance for a wide spectrum of abilities and prevent language from influencing results. The questionnaire was four pages long, printed on both sides for reasons of economy.

Following the example of Beckers and Dlugolecka (1987), teachers, principals and selected parents were all consulted as to the suitability of the questions. Unlike the questionnaire devised by Mathews et al. (1990), no specific mention was made of condom usage, nor were respondents asked about their sexual behaviour as this was not seen as being relevant to the research on knowledge and attitudes of the pupils, nor was it prudent in a survey of this non-probability — and readily identifiable — sample. No attempt was made to distinguish between HIV seropositivity and full blown AIDS as did Liontos (1989). With the ages of the respondents ranging from 12 to 18 years and hence a wide range of cognitive abilities, this might simply have caused unnecessary confusion, as it did in the research of O'Farrell and Will (1989).

5.2 Questionnaire B for standard 5 pupils

A complete copy of the questionnaire B is appended. (Appendix 6 pp 96—7.)

5.2.1 Questions

It was decided to ask most of the questions in open-ended form to enable the pupils to respond at their own particular level of language competency, and different stages of sexual and social maturity. It was felt that these latter two factors would have influenced the kind of knowledge of AIDS each child would have acquired. The questions were again based on the areas designated by the pilot study.

The questions were divided into five sections:

Section 1. **Personal details** of the respondents.
Section 2. What you already **know** about AIDS.
Section 3. **Who** would you ask to find out about AIDS?
Section 4. **How** would you like to learn about AIDS?
Section 5. **What** would you like to learn about AIDS?

Section 1. This was identical to Questionnaire A.

Section 2. Knowledge questions.
Q 2.1 The first knowledge question was the identification of the acronym AIDS in order to focus attention on the topic.

Q 2.2 How do you think a person could get AIDS?

This open-ended question was asked to determine what methods of transmission were known to this group and to pinpoint the prevalence of any misconceptions.

Q 2.3 What does AIDS do to your body?

This open-ended question was asked to determine how accurately the effect and progress of the disease was understood.

Q 2.4 Is there anything that worries you about AIDS?

This was asked to determine whether they had grasped any of the unique features of the disease, such as that it is incurable and that it has a long hidden latent period, which could present particular dangers for them in the future. Also, it was hoped to identify fears based on misconceptions as these might provide pointers for remedial intervention.

Section 3:

The respondents were offered 'Yes' and 'No' choices of seven different people to ask about AIDS. They could select any number of them.

Section 4:

The respondents were offered 'Yes' and 'No' choices of four different groups of sources for obtaining AIDS information. They could select any number of these. Two of the choices involved getting information by inter-personal contact. The other two choices were impersonal media methods.

Section 5:

This was asked to find out what this cohort thought was the most essential information on AIDS that they needed.

The respondents were thanked and encouraged at the bottom of the first page.

5.2.2 **Design of the Questionnaire B**

The questions were again short and simple. Open-ended responses were restricted to three or four lines. Questions 3 and 4 were closed items with a simple instruction to put

one tick per line. The questionnaire was one page printed on both sides. In drawing up this questionnaire, much useful guidance was given by a standard 5 teacher at the girls' school and by an English language teacher who has a daughter in standard 3 and a daughter in standard 7 at one of the schools in the survey.

5.3 Questionnaire C for school personnel involved in AIDS education

A copy of this questionnaire is appended. (See Appendix 7 pp 98—9.)

The respondents were asked to state the position they held in their school. Information was sought on any health, family or sex education programmes in the school and the standards and subjects during which it was taught. Then the questions focused specifically on any teaching on AIDS. There were 29 closed item questions on the possible scope and content of the AIDS education in the schools. Teachers were asked to place magazines, newspapers, radio, television, books, parents, peers, and teachers in order of importance as sources from which pupils got their information prior to being taught **by them** about AIDS. They were asked what teaching methods they had found effective in AIDS education, whether boys and girls were always taught together (included especially for the senior school teachers), whether there was any feedback on their course, and how long the AIDS education had been in operation. Information on any parental involvement and whether parents were kept informed was also sought. Respondents were thanked.

The questionnaires were delivered personally, and discussed with the respondents. They were then returned by post or collected by the researcher. They were completed after the pupils' questionnaires.

6. Administering Questionnaires A & B

Permission to run the questionnaires was sought and obtained from the Heads of the four private schools. The confidentiality of the respondents was to be maintained. Since the schools concerned are largely boarding establishments, and 333 of the 439 respondents are boarders, parental permission was not sought. The Head of the school was deemed *in loco parentis*. Each Head was visited by the researcher with a copy of the questionnaires, and given the opportunity to study them before they were administered. Of the 106 day scholars, not a single parent registered a protest after the questionnaire had been administered. No prior notice of its administration had been given.

The questionnaire could conveniently be administered during regular class time. The period chosen was the final week of the first of three terms in the school year. This is a non-examination term and teaching continues to the end. The pupils are still in a working mode and so should be less likely to treat a research questionnaire flippantly.

No particular time limit for the completing of the questions was set down. In a trial run using 8 teachers, it was found that these respondents took 15-20 minutes to complete the questionnaire, so a class period of 30 to 40 minutes was deemed to be adequate.

Nineteen different teachers were involved in the administration of the questionnaire. The researcher supervised only the standard 5 class at the junior boys' school where she was not well known.

Each teacher was given a set of written instructions, and as many as possible were also verbally instructed by the researcher.

Each invigilator was asked to ensure that the respondents understood the instructions on how to answer the questionnaire. They were asked to tell the respondents to use a soft pencil if they were prone to changing their minds, so that they could rub out easily. As a result, not a single "spoilt" questionnaire was received.

Invigilators were to tell respondents not to guess but to use the "don't know" or "not sure" options if they were uncertain of the answer. Respondents were asked to answer accurately and honestly as this was serious and significant research.

At the end of the period the questionnaires were handed in to the supervising teacher.

7. Statistics used in the Analysis of the Responses

The questionnaire was pre-coded for closed items. A maximum of 20 different categories was allowed for the responses to open-ended questions. This gave the researcher sufficient freedom to distinguish between the various attitudes and ideas of the respondents.

The responses were coded for computer analysis which was done using the BMDP statistical package. Frequencies and percentages for rows and columns were calculated. In the analysis, all

the proportions are expressed as percentages, and N (the total number of respondents for each column or row) is given. Unless otherwise stated, the chi square test of independence was carried out when comparing responses. The level of significance for each chi square test was reduced by dividing the normal level of significance by the number of individual chi square tests performed, to ensure that the overall level of significance was not higher than 0,05 (Miller, 1981). p values of less than 0,005 were therefore accepted as significant at the 5% level of confidence.

Only the independent variables of the standard, race and gender of the respondents were used in the analysis in comparing the responses for significant differences. Cross tabulation using father's and mother's occupation yielded no significant difference in any response and so were disregarded.

In Questionnaire A, cross tabulation of the open-ended responses yielded no significant differences because of the large number of categories. Core concepts were defined and four to six major categories were identified. The responses were re-allocated to one of these major categories. The frequencies and percentages were again computed and these were used in cross tabulation to determine significant differences which are pointed out in Chapter 4.

CHAPTER 4: ANALYSIS OF THE QUESTIONNAIRES

(Note: the system of numbering sections and sub-sections used in chapters 1 to 3 is inappropriate in this chapter. The numbers used here correspond to numbered questions in questionnaires A and B.)

Questionnaire A for Standards 7 and 9

The responses were coded and analysed statistically as explained in Chapter 3. The tables of results, with all proportions and frequencies expressed as percentages, are given here. Brief comments only are offered to highlight the findings and to point out any significant differences that were found on cross-tabulation according to standard, sex or race. Only those tables of comparisons which yielded statistically significant differences are appended. (See Appendix 10 pp 103—8.)

Where NO comment is offered, the reader must assume that no statistically significant difference was found for that particular cross-tabulation. Differences that were found are focused on again in the discussion in Chapter 5.

The results of Questionnaire A are examined section by section, and the questions are examined in sequence.

Section 1: Subjects

The sample comprised 363 respondents from eight classes of Std 7 pupils and eight classes of Std 9 pupils. Three senior schools were involved, 26,2% respondents from a girls' school, 43,5% from a boys' school and 30,3% from a co-educational school. Table 1 shows the frequency of responses by school standard, race and sex. A complete table of the personal details of the subjects is appended. (Appendix 8 pp 100—1.)

(Table 1 follows overleaf)

Table 1 : Race and Sex of Respondents by School Standard

Sex	Race	Std 7	%	Std 9	%	Total	%
Male	White	67	18,9	97	27,3	164	46,2
	Black	21	5,9	16	4,5	37	12,4
	Other races	7	2,0	6	1,7	13	3,7
	Sub Total	95	26,8	118	33,5	214	60,3
Female	White	48	13,5	58	16,4	106	21,1
	Black	17	4,7	6	1,7	23	6,5
	Other races	7	2,0	5	1,4	12	3,3
	Sub Total	72	20,2	69	19,5	141	39,7
Total		167	47,0	188	53,0	355	100,0

Eight students had missing information for standard, sex and race and are not included in the table.

Absentee rate was low. The ages of the standard 7 pupils ranged from 13 years to 15 years (median 14 years) and the ages of the standard 9 pupils were in the range 15 years to 18 years (median 16 years).

Section 2: Existing Knowledge of AIDS

Q 2.1 What do the letters AIDS stand for?

32,5% of the respondents wrote nothing, 22,6% gave one or more words correctly and 44,9% gave all four words correctly.

Of the respondents who knew the meaning of the acronym, 76,4% were in standard 9 while only 23,6% were in standard 7. 28,2% of the white pupils wrote nothing compared to 54,0% of the black pupils. 49,4% of the white pupils got all the words correct compared to 26,0% of the black.

(Table 2 follows overleaf)

Q 2.2 How do people get infected with AIDS?

Table 2 - Proportions of Responses to Q 2.2

Source of Infection	Yes %	No %	Don't Know %	Total N
1 sex : man > man	92,5	2,2	5,3	361
2 sex : man > woman	97,2	1,4	1,4	362
3 sex : woman > man	91,9	2,7	5,3	358
4 dry kissing	1,4	94,8	3,9	362
5 hugging	0,6	98,6	0,8	362
6 coughing over you	7,5	74,0	18,6	361
7 toilet seat	5,5	79,8	14,7	361
8 swimming pool	4,4	81,7	13,9	361
9 mosquito bite	30,7	46,0	23,3	361
10 same cup	7,2	76,0	16,9	362
11 blood transfusion	93,1	2,8	4,1	362
12 same injection needle	96,7	0,3	3,0	362
13 mother > baby	93,6	1,4	5,0	361
14 breast-feeding	34,4	20,8	44,7	360

(See p 103 for appended Tables D and E.)

There were very few omissions to each question.

Knowledge of how AIDS is transmitted was generally good. Questions 1, 2, 3, 11, 12 and 13 all elicited over 90% correct responses. However, significantly more standard 7 pupils (8,3%) than standard 9 pupils (2,6%) **did not know** whether HIV infection occurred during sex between two men, and 4,1% of the standard 7 pupils thought it **did not,** compared to 0,5% of standard 9 pupils. A comparison of the responses of black and white children to this question showed a significant difference with 10,0% of the black children denying homosexual transmission, compared to 0,7% of the white children in the sample.

Fewer standard 7 pupils (87,1%) than standard 9 pupils (98,4%) knew that blood transfusions could transmit the AIDS virus.

Responses to Question 14 indicated uncertainty. The choice of the 'Don't Know' option by 44,7% of the respondents is considered to be an honest one as transmission by breast-feeding is rare and has only recently been acknowledged. A greater proportion of black children (54,2%) and standard 7 pupils (40,2%) gave breast-feeding as a means of transmission than did white children (29,3%) and standard 9 pupils (29,3%).

Questions on AIDS transmission that required a 'No' answer revealed a higher proportion of misconceptions. While most respondents knew that hugging and dry kissing would not cause infection with AIDS, they were less certain that there would be no transmission when sharing a swimming pool (81,7%), toilet seat (79,8%), a cup (76,0%) and when someone coughs over you (74,0%). Significantly fewer standard 7 pupils (66,5%) knew that people do not get infected with the AIDS virus by sharing the same cup than standard 9 pupils (84,4%).

Responses to Question 9 showed there is either a lack of knowledge or real conceptual difficulty here, as only 46,0% of the respondents gave the correct answer. This is perhaps understandable as a mosquito bite has all the elements of transmission, namely sharp mouth parts which pierce and enter the bloodstream.

Q 2.3 Which body fluids contain very high concentrations of the AIDS virus in an AIDS sufferer?

Table 3 : Proportions of Responses to Q 2.3

Fluid	Yes %	No %	Don't Know %	Total N
1 saliva	19,8	63,4	16,8	358
2 semen	73,7	4,2	22,2	361
3 vaginal secretions	70,3	6,7	23,1	360
4 blood	94,4	0,6	5,0	360
5 sweat	5,3	76,4	18,3	356

(See p 104 for appended Tables F and G.)

The fact that blood has very high concentrations of the AIDS virus was generally well known, but almost 30% of the respondents did not know, or indicated that semen and vaginal secretions did

not have very high concentrations. Saliva is seen as a dangerous fluid by 19,8% of the respondents and another 16,8% are uncertain of its status.

A comparison of the responses according to school standard showed that in every case significantly more of the standard 7 pupils did not know the status of each body fluid. In the case of saliva, 28,0% of standard 7 respondents gave that saliva has a very high concentration of AIDS virus, compared to 12,6% of standard 9 respondents.

A comparison of these responses according to race showed that only 52,5% of the black children knew that semen had a very high AIDS virus concentration, compared to 79,9% of the white children.

Q 2.4 What body cells does the AIDS virus affect?

Table 4 : Proportions of Responses to Q 2.4

	Yes %	No %	Don't Know %	Total N
1 red blood cells	33,8	31,5	34,7	352
2 sperm cells	54,4	19,5	26,1	353
3 egg cells	43,0	23,1	33,9	351
4 one type of white blood cell	23,4	28,0	48,6	354
5 all white blood cells	45,2	12,6	42,1	356

(See p 105 for appended Table H.)

Accurate knowledge of the cells affected by the AIDS virus was lacking. Fewest pupils (23,4%) chose the expected answer out of the five choices. The 'don't know' option was used by a high proportion of respondents for every choice. A poor choice of words by the researcher has been acknowledged. (See p 61.)

A comparison of the responses according to school standard showed that in every case significantly more standard 9 pupils chose the correct response than standard 7 pupils.

Q 2.5 What effect does the AIDS virus have on the immune system of humans?

Table 5: Proportions of Responses to Q 2.5

Weakens it gradually (%)	Destroys it immediately (%)	Don't Know (%)	Total (N)
90,6	4,1	5,2	362

(See p 105 for appended Table I.)

Most respondents (90,6%) chose the option which suggested the protracted and progressive nature of the disease.

A comparison of the responses according to school standard showed that significantly more standard 7 pupils gave an incorrect or uncertain response and more standard 9 pupils (98,3%) gave the correct response than standard 7 pupils (85,2%).

Q 2.6 Up until now, how have you obtained information on AIDS ?

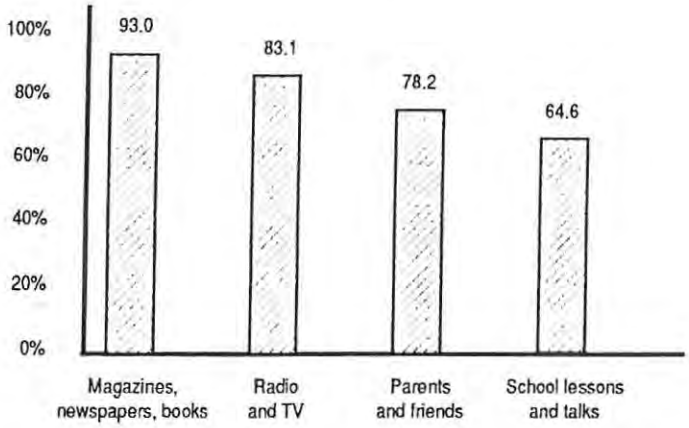

Fig. 1. Prior sources of information on AIDS

(See p 106 for appended Table J.)

The sample clearly had access to much information on AIDS. Most information has come from the mass media and least from formal teaching. A comparison of the responses by school standard showed that significantly more of the standard 9 pupils (75,4%) had some form of formal instruction on AIDS than the standard 7 pupils (51,9%).

General comment on Section 2

The standard 9 pupils have shown that as a group they possess a more accurate knowledge of AIDS, especially the biomedical facts, than standard 7 pupils. This is in accord with the greater amount of formal instruction they claim to have had, possibly some of it from biology classes. It also agrees with the testimony of the school personnel.

Section 3: Attitudes towards AIDS

Q 3.1 AIDS has been described as the plague of the century. Pick out the 3 factors you find the most worrying about AIDS :

Table 6 : Frequency of Worries about AIDS (in rank order) Q 3.1

Worry	Frequency (N)=(3x363)
That it has no cure	31,2%
That it is spreading so fast	26,9%
That people who get AIDS will die from it	17,4%
That people with AIDS are rejected by society	14,8%
That you feel you don't know how to protect yourself against it	9,7%

(See p 106 for appended Table K.)

A comparison of the responses according to race showed that of those who gave rejection by society as a major worry, 60,0% were black pupils.

The open-ended responses (N=196) which were offered when respondents were invited to comment further, fell into the following categories: 54,0% were fears caused by the nature of the disease — that its hidden nature makes sex risky; that having to ask your fiancee to take an AIDS test could cause a lack of trust; that rape is possibly fatal; that dying from it is painful : 30,1% were fears about not knowing how to protect oneself — that there is a lack of trust in condoms; that they do not know enough to protect family and friends : 14,3% expressed fears related to a lack of faith in human nature — that people are callous and dishonest; that they will not co-operate to stop the spread of the disease. One respondent stated that he was not concerned because he knew of protection during sex.

Q 3.3 Is there anything about AIDS you feel is good and that will benefit mankind?

The open-ended responses (N=254) fell into the following categories: 78,0% said AIDS would help to keep the population numbers down because of deaths or by increased contraception : 19,3% felt that the threat of AIDS would improve human behaviour standards because people would turn from promiscuity, homosexuality and drug addiction : 2,4% stated strongly that there was nothing good about AIDS. One respondent suggested that a cure for another disease might be found while searching for a cure for AIDS.

A comparison of these responses according to sex showed that 63,6% of the respondents who gave population control as a benefit were males: 63,3% who gave improved human behaviour were females. (See p 106 for appended Table L.)

Q 3.4 If a person who has AIDS joined your class at school, how would you feel? Do you think you would ...

Table 7 : Proportions of Responses to Q 3.4

	Yes %	No %	Not sure %	Total N
1 avoid him/her entirely	25,2	45,3	29,6	318
2 make friends with him/her	31,1	25,0	43,9	328
3 ask that he/she be sent away	6,1	78,0	16,0	313
4 ask to be taken out of the class	8,3	75,5	16,2	314

(See pp 106—7 for appended Tables M and N.)

The attitudes of the sample were reasonably tolerant, with about three quarters of the respondents prepared to accept the sufferer into the class and to remain in the class themselves. Only 25,2% said they would actively shun an AIDS sufferer, while 31,1% thought they would try to make friends. There are several examples of validating concurrence in these responses: The proportion of respondents that would **avoid** an AIDS sufferer is 25,2% and the proportion that would **not** make friends is 25,0%. All the proportions to the two possibilities of the pupils' position in the classroom in relation to an AIDS sufferer are in agreement. (See 3 and 4 of Table 7.)

A comparison of responses according to race showed that a significantly greater proportion of black pupils (20,4%) than white pupils (5,1%) would ask to be taken out of the same class as an AIDS sufferer. A comparison of responses according to sex showed that females in the sample have significantly more tolerant attitudes towards an AIDS sufferer than males. A smaller proportion of females (7,8%) than males (37,1%) would avoid the sufferer, and only 2,3% of the females would ask to be taken out of the class, compared to 12,6% of the males. A greater proportion of females (42,5%) than males (23,2%) would try to make friends.

The open-ended responses (N=154) were divided into four categories: 49,4% were ambivalent or uncertain, many expressing **caution** (I would need to know how AIDS spreads) : 33,1% said they would act normally or sympathetically : 13,0% would avoid or be indifferent to an AIDS sufferer: 4,5% expressed a moralistic or judgmental view (it would depend on **how** they had got AIDS).

Several respondents explained that their attitude could not be predetermined or constant, as it would be affected by who the person was, how the sufferer coped with the disease and how they themselves learnt to live with someone with AIDS.

General Comment on Section 3

The commonly held fears of AIDS, that the disease is incurable, and that death from the disease is inevitable and painful, were prevalent in this group. A realistic and perceptive comment on human nature was offered by several respondents when they acknowledged selfishness and the consequent difficulty of changing human behaviour.

Most respondents were pragmatic in their assessment of any benefit of AIDS to mankind when they saw it as a solution to over-population. Some valued the moral and behavioural gains that could accrue.

In attempting to predict how they would behave towards an AIDS sufferer, about 75% of the respondents were either tolerant or uncertain in their attitudes. Of those who lacked conviction, many expressed a willingness to consider the sufferer as an individual and base their actions on that.

Section 4: Where, when, from whom, how and what would you like to learn about AIDS?

Q 4.1 Where do you feel is the best place to get information on AIDS?

Of the 354 respondents, 64,2% chose school as the best place for AIDS education, 20,3% chose the home, 15,2% a youth group and 0,3% church.

Q 4.2 At what age should you first start to get information on AIDS?

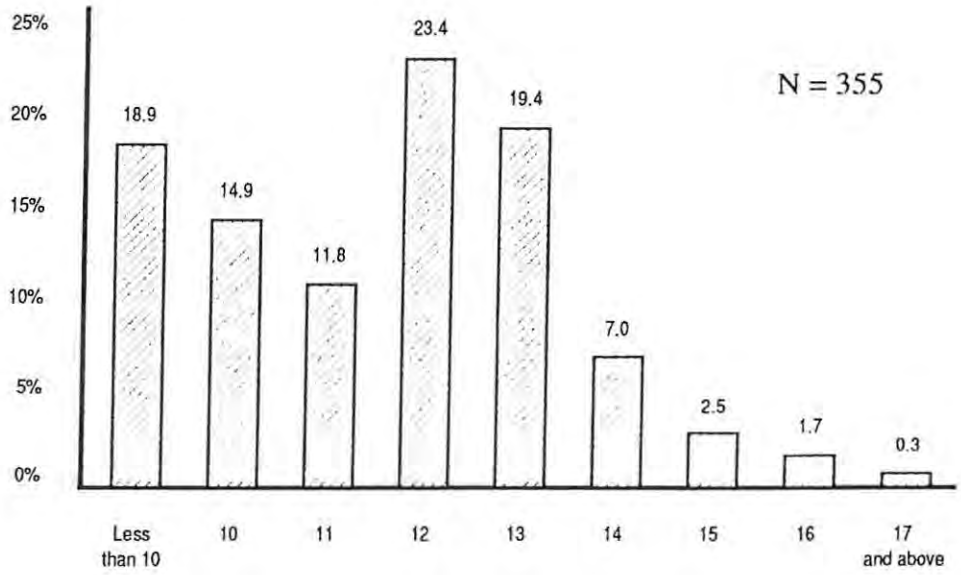

Fig. 2 Selection of age at which AIDS education should commence

88,4% of pupils indicated that AIDS education should begin at or before 13 years, the age at which most pupils in the sample started senior school.

The most frequent reason given for choosing a particular age was that it was the right time to protect children against or make them aware of AIDS (36,2%). Some respondents explained that this was necessary as at senior school children mixed with older people, or because this was the age at which adolescents experimented or rebelled. 27,0% of the respondents stated that it was the age at which children became sexually aware. 25,5% said at that age children would be mature enough to understand the facts of AIDS. Some added that they could understand without getting concerned. 10,1% of the respondents said that they had chosen that particular age because it was when teenagers became sexually active. 1,2% stated that AIDS education should never be taught.

Q 4.3 From whom would you prefer to get information on AIDS?

Table 8 : Proportions of Responses to Q 4.3

Option 1 (%)	Option 2 (%)	Both (%)	Neither (%)	Total (N)
1. Father 8,5	Mother 12,7	59,2	19,7	355
2. Friend (same sex) 27,1	Friend (opp. sex) 5,9	52,5	14,4	352
3. Friend (own age) 23,4	Friend (adult) 29,9	39,5	7,1	354
4. Principal 2,3	Teacher 56,5	24,1	17,0	352
5. Minister 9,4	School Counsellor 43,1	25,1	22,8	350
6. Male Teacher 10,0	Female Teacher 21,7	60,4	8,0	351

(See pp 107—8 for appended Tables O and P.)

1. Almost 20% of the sample preferred not to get information on AIDS from their parents. A comparison of the responses according to sex showed that whilst getting information from both parents was the most popular choice of both sexes, a greater proportion of females chose to get information from their mother only and a greater proportion of males from their father only. 23,4% of males did not choose parents as information-givers, compared to 14,3% of females.

2. 85,6% of the sample would like to get information from friends. A comparison of the responses according to sex and school standard showed that:
   * getting information from friends of both sexes was the most popular choice. In cases where respondents chose informants of one sex, a greater proportion of both males and females opted to get information from a friend of their own sex.
   * more standard 7 respondents preferred to ask a friend of the same sex only, rather than both.
   * 18,4% of males chose not to get information from friends, compared to 8,5% of females.

3. Only 7,1% of respondents preferred not to get information from an adult friend or a peer. A comparison of the responses according to sex showed that a greater proportion of females (51,7%) preferred to get information from both adults and peers than males (31,2%). 10,2% of the males in the sample indicated neither, compared to 2,1% of the females.

4. A principal was not a popular choice (2,3%), but an ordinary class teacher was (56,5%), and 24,1% of the respondents opted to get information from both.

5. These options elicited the highest negative response (22,8%) but a school counsellor only was seen as a source of information by 43,1% of the respondents, or both the counsellor and the minister by 25,1% of the respondents.

6. Again teachers were a popular source of information. A comparison of the responses according to sex showed that while getting information from both teachers was the most popular choice, female teachers were preferred to male teachers by the female respondents. Boys chose male and female teachers only in almost equal proportions. 10,3% of the males chose not to ask either teacher compared to 4,9% of the female respondents.

Q 4.4 How would you like to get information on AIDS?

Table 10 : Proportions of Response Options to Q 4.4

Option 1(%)	Option 2(%)	Both (%)	Neither (%)	Total (N)
1. On your own 16,6	In a group 44,5	34,6	2,2	355
2. Special course 12,2	General sex education 46,9	37,2	3,7	352
3. Magazine/Book 8,3	Video or TV film 25,4	63,8	2,6	351
4. Lectures 12,1	Group Discussion 33,0	49,1	5,7	348

(See p 108 for appended Table Q.)

From the responses to Questions 1 and 2, it may be inferred that fewer than 4% of the respondents had a totally negative attitude towards AIDS education. Fewer than 6% of respondents wanted no formal education in the form of discussions and lectures. In every case the second option was preferred to the first. 63,8% of respondents chose both magazines and books as well as video and TV, and almost 50% wanted lectures as well as discussions.

A comparison of responses according to sex showed that the greatest proportion of the males preferred group interaction (48,1%), while amongst the females both group as well as individual instruction was the preferred choice (45,5%). 5,3% of the males wanted neither form of interaction, compared to 2,3% of the female respondents.

Q 4.5 What information should AIDS education include?

Table 10 : Proportion of Response Options to Q 4.5

Question	Yes %	No %	Not sure %	Total No
1 AIDS virus and its effect on the human body	98,0	0,8	1,1	357
2 How people get infected with AIDS	98,0	1,1	0,8	358
3 How to avoid getting AIDS	98,6	0,3	1,1	357
4 How to find out if you are infected with AIDS	91,9	3,4	4,8	356
5 What is 'safe' sex	93,8	2,5	3,7	355
6 Homosexuality	73,2	13,5	13,2	355
7 How to behave towards people with AIDS	84,8	7,9	7,3	356
8 Which countries in the world have most AIDS and why	73,4	14,4	12,2	353
9 Drugs and AIDS	91,8	3,7	4,7	353

Almost all of the respondents indicated that AIDS education should include information on the effect of the AIDS virus on the body, on its transmission, and on how to protect oneself against AIDS. Over 90% of respondents wanted testing for AIDS, safe sex, and information on drugs and AIDS to be included. Education on attitudes towards AIDS sufferers was not considered necessary by as many respondents (84,8%). Homosexuality, and the distribution of AIDS and its prevalence, which perhaps are topics not essential for knowing how to protect oneself against AIDS, were selected by only 73% of respondents.

The open-ended responses (N=113) mainly asked for AIDS education to include more information on the disease — where it originated, why there is no cure, and more details of its effect on the body (58,4%). 15,9% wanted more details on how it is transmitted and how to avoid getting AIDS : 11,5% asked for more guidance on how to behave towards people with AIDS, and 8,0% asked for information on how to cope if you got AIDS. One respondent specifically mentioned the need to know where to get counselling. 2,7% wanted to know why people persisted in spreading the disease, and the remainder (3,5%) wanted to know everything about sex.

General Comment on Section 4

The responses showed that AIDS education should have a broad content, using several different methods and sources to impart information. Adults, particularly teachers, as well as peers of the same sex, are seen as people whom they could consult on AIDS. Most of the respondents felt that education on AIDS should begin at or before 13 years of age.

Generally, in terms of from whom, and how, they should receive instruction on AIDS, a greater proportion of the boys showed negative attitudes than the girls.

Questionnaire B for standard 5

The responses were coded and analysed statistically, as explained in Chapter 3. The tables of results, with all proportions and frequencies expressed as percentages, are given here. The results are in rank order, with misconceptions placed last. Brief comments only are offered, to highlight the findings. No statistically significant differences were found on cross-tabulation according to race and sex.

The results of questionnaire B are examined section by section, and the questions are examined in sequence.

Section 1: Subjects

The sample comprised 76 respondents from four classes of standard 5 pupils. Three junior schools were involved. 34,2% of the respondents were from a girls' school, 21,1% from a boy's school, and 44,7% from a co-educational school. Only the boys' school was autonomous. Each of the other two schools form part of a corporate body with a senior school also involved in this survey. A complete table of personal details of the subjects is appended. (Appendix 9 p 102.)

Table 11: Race and Sex of Standard 5 Respondents

Sex	Race	Std 5	%
Male	White	29	38,2
	Black	6	7,9
	Other races	2	2,6
	Sub Total	37	48,7
Female	White	29	38,2
	Black	9	11,8
	Other races	1	1,3
	Sub Total	39	51,3
	Total	76	100,0

Absentee rate was low. The ages of the pupils ranged from 11 to 14 years (median 12 years).

Section 2: Existing knowledge of AIDS

2.1 What do the letters AIDS stand for?

The answers were classified as for Questionnaire A. 90,7% of the respondents wrote nothing and only 2,6% of the respondents got all four words correct. 6,7% of the respondents gave one or more words correctly.

2.2 How do you think a person could get AIDS?

Table 13: Frequency and Variation of Perceived Methods of AIDS Transmission.

Means of transmission	% N = 76
Sexual transmission only	36,8
Sex, IV drugs (or needles) and a misconception e.g. saliva	15,8
Sex and IV drugs (or needles)	11,8
Sex and blood mixing	11,8
Sex, IV drugs (or needles), blood mixing	5,3
Blood mixing only	2,6
Mother to baby	2,6
Mother to baby, sex and IV drugs	2.6
No comment made	1,3
Misconception only	9,2

These open-ended responses (N=76) were classified according to content. 84,1% of the respondents knew that you could get AIDS through sexual activity. Of these, more than half knew there were other factors such as mixing blood, injections, tattoos and sharing needles when taking drugs. Many knew that promiscuous sex increased the chances of infection. Three respondents mentioned that not using condoms during sex was risky behaviour. Two of the respondents suggested that sex between two women, as well as heterosexual transmission, could transmit AIDS. In addition to sex, 15,8% gave some misconception like "breathing over you", "being involved with dirty and unhealthy people", "sitting on dirty toilets", or "two married people having different types of blood". This showed that incorrect information can co-exist with correct information, and this concurs with the findings of Mathews et al. (1990).

Several respondents regarded saliva as being highly dangerous. Only four respondents (5,2%) mentioned transmission from mother to baby. Of these, two (2,6%) gave the best answers by mentioning all three paths of transmission. Only one respondent wrote nothing. 9,2% of the respondents gave a misconception such as transmission of AIDS by physical contact like hugging and kissing, or by being next to an infected person, or from food, drink, or infected sores.

2.3 What does AIDS do to your body?

Table 13: Frequency and Variation of Perceived Effects of AIDS.

Effect of AIDS	% N=76
Go bald, shake, develop rashes	21,1
Attacks white blood cells leading to infections	13,2
Destroys body causing death	11,8
Become thin or lose weight	10,5
Attacks white blood cells	7,9
Become weak and prone to infection	7,9
Mental deterioration and paralysis	3,9
Develop rashes and die	3,9
Attacks white blood cells and you die	2,6
Become thin and prone to infection	2,6
Misconceptions	14,5

The open-ended responses were classified according to the most explicit symptoms they contained. The most accurate answers showed an ability to correlate loss of white blood cell function with a susceptibility to infection (13,2%). Another 7,9% knew of white blood cell involvement but were not able to say how death resulted. Some examples of the misconceptions were: "Your feeding system gets blocked up and you throw up"; "(AIDS) eat your insides"; "It makes it deformed"; "You feel weak and can't have babies."

A comparison of responses according to sex showed that 80% of the respondents who gave answers that mentioned white blood cells were males. Of the respondents who mentioned that AIDS makes you thin or destroys your body and you die, 83% were females. The overall responses to this question did not show a statistically significant difference.

Comment on Section 2

Knowledge of the acronym AIDS was very poor indeed, with only two of the seventy-six respondents knowing it completely. Without formal teaching it would seem that children of this age do not understand the meaning of these words and so cannot recall them.

Knowledge of transmission by sex, and by mixing blood, was fairly widespread, but a few respondents indicated that they did not understand how this happened. This suggests that they had not had transmission explained to them, but had obtained their information on it from newspapers and magazines. The standard 5 teachers confirmed that the children had not had formal teaching and that, in their opinion, newspapers and magazines were the major source of information for the standard 5 pupils (see p 58). No respondent suggested transmission by insects was possible, which is interesting, considering the confusion that the standard 7 and 9 pupils displayed over mosquito bites.

Respondents gave a wide variety of symptoms, but most of these suggested the kinds of visible deterioration shown by AIDS sufferers in photographs in magazines. For example, weight loss was mentioned, but not the diarrhoea that is a cause of it; hair loss and rashes were mentioned, but not continuous low fever, or lung or fungal infections.

Section 3: Fears about AIDS

2.4 Is there anything that worries you or makes you afraid of AIDS?

Table 14: Frequency and Variation of Fears and Worries about AIDS

Fear or worry	% N=76
There is no cure and you die	35,5
Don't know how to protect oneself	13,1
Causes death and it is spreading fast	6,6
Hidden nature of the disease	5,3
The danger of rape	5,3
General fear for self and others	5,3
That it damages babies	3,9
"Sufferers" are rejected	2,6
You die and are also rejected	1,3
Concern for the world's future	1,3
That it may be spread by insects	1,3
Misconception - kissing friends or eating with them will cause AIDS	2,6
No comment made	15,8

The open ended responses were classified according to the most explicit fear or fears expressed. 15,8% of the respondents either left a blank or said that nothing worried them.

Comment on Section 3

The fear related to the incurable and fatal nature of the disease was widely held. Almost 20% of the respondents explained that they were afraid because they did not know how to protect themselves against this deadly disease, several adding that this was due to the hidden nature of the disease.

Section 4: Learning about AIDS

3. Who would you ask to tell you about AIDS?

The pupils were asked to indicate from a selection of people likely to be significant in their lives, who they would or would not ask for information.

(Table 15 follows overleaf)

Table 15: Preferred Person to Ask for Information on AIDS - Std 5

Person as source of information	Yes %	No % N=76
Mother	86,8	13,2
Father	67,1	32,9
Teacher	55,3	44,7
Friend of same sex	51,3	48,7
Sister/brother	42,1	57,9
Chaplain/priest	23,7	76,3
Friend of opposite sex	21,1	78,9

Parents, particularly the mother, were most often chosen to be asked about AIDS, followed by a teacher. A friend of the same sex was chosen more than twice as frequently as a friend of the opposite sex, which was the least popular choice.

4. How would you like to learn about AIDS?

Table 16: Preferred Method of Instruction on AIDS - Std 5

Method of information transfer	Yes %	No%	Total N
Lessons and talks at school	90,8	9,2	76
Talking to parents and friends	76,0	24,0	75
Magazines, newspapers, books	64,8	35,2	76
Radio and television	61,8	38,2	76

Lessons and talks at school was the preferred method for receiving information of 90,8% of the respondents, i.e. formal and structured learning was preferred to informal talks with parents and friends, which was only selected by 76,0% of respondents. Getting information from another person was chosen in preference to reading about AIDS, listening to a broadcast or watching TV.

5. What would you like to learn about AIDS?

Table 17: Frequency and Variation of Topics Chosen for Learning about AIDS.

Topic	% N=76
What it is. What it does. How you get it. How to prevent it.	32,9
What it is. What it does.	22,3
How you get AIDS.	19,7
Origin of AIDS. What it is. About a cure (7 pupils).	11,8
Everything about AIDS.	6,6
How you know if you or others have it.	5,2
How you get AIDS. How to behave towards others.	5,2
No comment made.	2,6

Two pupils left the space blank. The open-ended responses were analysed according to explicit ideas expressed. About 60% of the respondents wanted to know how AIDS is transmitted (how you get it). About half of the respondents wanted to have the nature of the disease explained, while a third asked specifically for information on how to prevent it or stop its spread.

Comment on Section 4

This group shows some awareness of AIDS as a personal threat, as most respondents wanted to know how you get it or how to protect themselves against infection. Of those who asked about a cure, two asked what was the cure, four whether there was a cure, and one why a cure could not be found.

Most respondents showed that, though they still placed greatest trust in, and depended on their parents for discussions on AIDS, they would like to be taught about AIDS at school. Interpersonal contact in obtaining information on AIDS was chosen above the media. This would provide opportunity for explanation and reassurance, and was considered to be the best method for the standard 5 pupils by their teachers (see p 58).

Questionnaire C for school personnel involved in AIDS education

These questions were asked to get background information on any AIDS teaching in the schools involved in the survey.

Standard 5 AIDS education

Responses were received from two class teachers and a guidance teacher. One of the standard 5 class teachers did not complete the questionnaire.

Prior to answering the questionnaire, **none** of the standard 5 classes had had formal class instruction on AIDS. Subsequently, AIDS instruction was given in two of the standard 5 classes.

The teachers independently ranked newspapers as the chief source of information for their pupils, with magazines and television next. Their combined ratings gave peers, parents and teachers next, in that order, with books and radio being judged of least importance. Clearly, in the absence of formal teaching, the teachers considered that the influence of the mass media could be significant in conveying information.

The girls' teacher considered an outside speaker who could give up-to-date facts and figures was the best way of teaching the girls about AIDS. This could be followed by several discussion sessions, possibly with the sanatorium sister or someone medically qualified, in order to allay any persistent fears and to correct misconceptions. At the boys' school, the guidance teacher and not the class teacher was considered to be the best person to discuss AIDS and its implications with the boys. A video and a talk from an outside speaker were also considered useful teaching methods.

There was no parental involvement in AIDS education at any of the schools. As no course had been run up to that time, there had been no evaluation.

Standards 7 and 9 AIDS education

Responses were received from a guidance teacher, a careers counsellor and a sanatorium sister.

Prior to answering the questionnaire, there had been no AIDS education that year in any of the schools except for some biology classes in standard 9. Standard 7 pupils who had been at the schools the previous year, would have had some AIDS instruction at the end of standard 6, while the standard 9 pupils should have been taught about AIDS several times. The third term of the standard 6 and 7 years were mentioned by all three schools as being the time when AIDS was dealt with specifically, as well as in standard 8 (co-ed school only) and in the standard 9 biology course.

In the AIDS course, all the medical facts were dealt with except for the difference between seropositivity and full-blown AIDS (co-ed school). Feelings, behaviours and values associated with AIDS were discussed except for fears (boys' school) and attitudes towards AIDS sufferers (boys' and girls' schools). Specific behaviours like deep-kissing, and sharing razors and toothbrushes had not been discussed at the co-ed school. Most of the social and economic implications of AIDS were covered at the co-ed and girls' schools, but these were not specifically discussed at the boys' school.

In all three schools, specific instruction on both the medical and preventive aspects of AIDS has been given since about 1985, much of it in the biology courses (boys' and girls' schools). At the boys' school, biology teachers were ranked as being the most important source of information, but teachers were rated fairly low at the other two schools. Again newspapers and magazines were considered important sources of information by all three respondents, peers important by two, and television fairly important by all three.

Two respondents considered videos, together with talks and discussions, good methods of teaching about AIDS. At all three schools, it is included as part of the STD unit of the health education programme. All the teachers had got feedback on their lessons but had not formally evaluated them.

There was no parental involvement in AIDS education at any of the schools.

CHAPTER 5: DISCUSSION AND RECOMMENDATIONS

1. Introduction

The aim of this survey was to investigate the knowledge of and attitudes towards AIDS amongst three cohorts of schoolchildren at four private schools. The intention was that by so doing, information would be provided to draw up guidelines for effective AIDS education in these schools. In addition, areas of confusion or fear, requiring remedial teaching, would be highlighted.

The discussion takes the following lines:

On the basis of the findings, the strengths and weaknesses of the research instrument will be examined.

The findings of the pupils' knowledge and attitudes will be discussed in turn and will be related to the AIDS education in the schools as reported by various school personnel. Any implications for teaching in these schools and suggestions for further research will be made as the discussion proceeds.

Finally, the preferences and perceived needs of the pupils for AIDS education will be considered and related to the programmes in operation in various selected foreign countries, in the RSA and in the self-governing and independent states. Possibilities for cross-curricular activities will be given and guidelines for an AIDS education programme will be offered. Attention will also be paid to programmes that have been suggested by individuals such as Bock and Hoch (1988), Sroka (1988), Allensworth and Symons (1989), Tomaszewski (1989), and Schurink & Schurink (1990).

2. Possible Strengths and Weaknesses of the Research Instrument as Shown by the Findings.

2.1 Strengths

The mechanics of the questionnaire worked well. The display was businesslike and the care given to the language and the structuring of the questions resulted in very few problems in administering the questionnaire.

The co-operation of the respondents was good. Except for Q 2.1 about the acronym and Q 2.4 on fears of AIDS, fewer than 3% of the standard 5 pupils failed to answer any one question in Questionnaire B.

In Questionnaire A, the response of the standards 7 and 9 pupils was good, with fewer than 4% of the respondents failing to answer any one question. The only exception was Q 3.4 where many pupils left the closed item questions blank, preferring to comment independently. Since the open-ended questions were asked simply to enable respondents to express an opinion, or to justify or extend an answer, any lack of response was not seen to show a negative attitude.

The checks of validity incorporated into the research procedure (see p 29 — 30) gave further confirmation that the pupils had taken the questionnaire seriously. (See pp 43 — 44, 54, 56.)

2.2 Weaknesses

There were two problems with the structuring of the questions.

In Questionnaire B, Q 4 posed a dilemma for a standard 5 boy as he wrote that he would talk to his parents but not to his friends. Parents and friends, and, perhaps, also the other items grouped together, should have been given as separate options.

In Questionnaire A, Q 2.4 might have elicited a greater number of correct responses if the following improvements had been made:

* the verb **infect** not affect had been used;
* a qualifying word had been used so that option 4 read "**mainly** one type of white blood cell", and option 5 read "all white blood cells **equally**".

In retrospect, there were two important omissions, neither of which caused significant limitations to the drawing up of guidelines for AIDS education.

Firstly, the possibility that experts in the medical profession might be acceptable to these pupils as AIDS educators was not investigated. As the pupils in the present survey were not asked their opinion of a possible role for doctors and nurses in AIDS education, evidence collected by other researchers has been used in the discussion of guidelines.

Secondly, although it was established from the free responses of the standard 5 pupils to Q 5 and from the responses to the closed items in Q 4.5 of the standards 7 and 9 pupils, that preventive behaviour should be taught, the existing knowledge of what preventive behaviours were known and understood by these pupils was not investigated. This omission was in keeping with the researcher's decision that it was neither relevant nor prudent to probe sensitive areas such as personal sexual behaviour and the knowledge and understanding of protective methods like condom usage, using a non-probability, readily identifiable sample such as this one. Use has been made of the findings of Reader et al. (1988), Hingson et al. (1990) and Mathews et al. (1990) in this discussion.

3. Knowledge

3.1 Methods of transmission of AIDS

3.1.1 Misconceptions

Similar misconceptions were evident in all three groups of pupils. While the most publicised methods of transmission — namely sexual intercourse, blood mixing by transfusion or syringes, and from an infected mother to her child — were generally well known, many of the respondents clearly saw themselves at risk in daily commerce with an infected person. The common misconceptions held by the standards 7 and 9 pupils were that AIDS can be transmitted by an infected person coughing over you, sharing the same cup, or using the same toilet. Almost 10% of the standard 5 pupils offered similar misconceptions in their open-ended responses (see p 52). This lack of knowledge about the safety of individuals in communal living is particularly worrying in a boarding school situation.

Hingson et al. (1990) found similar persistent misconceptions among Massachusetts teenagers in their survey conducted over three years (1986 — 1988). After 3 years, 11% of their respondents still believed that AIDS is spread from drinking and eating utensils. From their study of 13 to 26 year old black pupils in Cape Town, Mathews et al. (1990) reported that these students also thought that AIDS could be transmitted through casual contact such as shaking hands and from contact with chairs and eating utensils. So it would seem that these misconceptions are widely held among adolescents.

Since both coughing and drinking and eating involve the spreading of traces of saliva, a root cause of these misconceptions related to AIDS transmission may lie in the confusion shown by the

subjects of the present survey over the status of saliva. Fewer than half of the standard 7 pupils were able to state that saliva did not have very high concentrations of the AIDS virus, and only three-quarters of the standard 9 pupils knew this. In their free responses 14,0% of the standard 5 respondents mentioned deep kissing, or an exchange of saliva (or spit), or kissing as a method of transmission. Saliva was mentioned, together with sexual transmission and injecting drugs, by some standard 5 pupils, which suggests that they regard it as highly dangerous. Deep kissing is arguably the level of sexual experimentation for a fair number of these twelve year olds.

These misconceptions provide pointers for more meaningful teaching. There is a need for open discussion on this topic with all the pupils in this sample to point out that there is scientific uncertainty over the risk attached to deep kissing, so it should be avoided. Up-to-date medical and scientific information should be offered on why traces of saliva in the air and on eating utensils pose no threat.

3.1.2 Mosquito bites and breast-milk

Fewer than half of the senior school pupils were able to answer correctly whether a mosquito bite would transmit AIDS or not. In their survey of 11th grade students, Miller and Downer (1988) found that about half of these subjects thought mosquitoes could act as vectors of AIDS. If this were a method of transmission then, like malaria, catching AIDS would be purely a matter of chance. It would then not be tenable to teach that it is voluntary human behaviour that puts you at risk, and that, to be sure of staying free from infection by the AIDS virus, risky behaviours must be changed or avoided.

None of the junior school pupils suggested that mosquitoes could transmit AIDS and only one stated the fear that insects **might** be able to do so. It is possible that this misconception amongst the senior school pupils, in fact, illustrates the increasing cognitive ability of this group. According to Ausubel's assimilation learning theory (in Novak, 1978), what is already known and what is perceived to be relevant by the learner, are the two main factors which influence the incorporation of new knowledge into the learner's conceptual framework. These pupils have indicated that they regard learning about how AIDS is transmitted as important to them. Most of them already know that the AIDS virus can be transmitted by injection. Perhaps, by testing what they know about mosquito bites against prior knowledge of injections, some of them have concluded that mosquitoes could or do transmit the AIDS virus. If these adolescents have progressed to formal operational thought, they would be capable of testing new possibilities against past experience (Piaget, in Phillips, 1981).

It is possible that the confusion shown over the transmission of AIDS by breast-milk, the only question in which the standard 7 pupils performed significantly better than the standard 9 pupils, is also the result of an alternative framework by means of which these pupils have reasoned out their answers (Driver and Easley, 1978).

Further, these pupils, with justification, may consider that information on AIDS transmission is uncertain and subject to change. They do not place sufficient reliance on their sources of information and so prefer to reason out answers rather than to accept what they are told.

Research in this area could provide information on how children form their concepts of AIDS transmission and could give teachers useful direction for more effective teaching.

3.2 Biomedical facts of AIDS

Except for blood, the fluids of transmission were not well known. Almost 30% of the senior school pupils did not know that semen and vaginal secretions are potentially dangerous fluids. It is appreciated that part of the problem could lie with the pupils' lack of comprehension of the meaning of these words. However, the invigilators were asked to ensure that the respondents understood the questions, and only one invigilator reported having been asked what semen meant.

Miller and Downer (1988) have stated that an educational programme may not be effective if it fails to relate what is being taught in the seclusion of the classroom to the reality of the pupils' lives. Thus, a more disturbing possibility suggested by this lack of knowledge is that, whilst most respondents are able to give sexual activity as a means of transmission of AIDS, they do not really understand the mechanics of this process, namely that the virus could be transmitted from semen or vaginal secretions, through a lesion in a mucous membrane, during sexual intercourse.

Perhaps the inability to make necessary links stems from yet another problem of school-based AIDS and sex education, mentioned by Miller and Downer (1988) and discussed at length by Aggleton et al. (1989), namely, that the teaching on AIDS and sex offered in schools often appears to be based on the assumption that none of the pupils is sexually active, and, it could be added, never likely to be. McCormick (1987), de Neergard (1988), and Aggleton et al. (1989) stress the need for explicit and comprehensive sex education as a prerequisite for effective AIDS education. There is an urgent need for a thorough evaluation of the current teaching programmes on sex education in these schools, with a view to effecting changes, in order to provide the necessary basis for understanding how to cope with AIDS.

That the type of cells that are affected by the AIDS virus was not well known is less problematical, as this lack of knowledge would not affect the ability of these pupils to protect themselves against AIDS. Yarber (1987) has advised that such facts should be omitted from an AIDS education course.

3.3 Information obtained from the comparison of the responses to the knowledge questions

3.3.1. Standard 9 pupils

From the reports of the selected personnel at the senior schools, it may be inferred that the majority of the standard 9 pupils should have had AIDS education during guidance classes at least twice prior to answering the questionnaire, while, at the most, the standard 7 pupils would have had only one session. Although the standard 9 pupils did have a better knowledge of AIDS than the standard 7 pupils, a substantial proportion of standard 9 pupils still held misconceptions or were ignorant of the correct responses to some of the knowledge questions.

Most of the pupils learn about AIDS during guidance, which is a subject that is not examined. For this reason, it is possible that some of these senior students may lack motivation to retain the biomedical facts about AIDS. However, this would not explain these pupils' lack of clarity over certain methods of transmission, a topic which should be very relevant to these adolescents.

Another possible reason for the persistence of misconceptions is that these standard 9 pupils believe that they already have all the knowledge of AIDS that they need, so they do not pay due attention when information is being given. White et al. (1988) found this attitude to be prevalent among 14 to 15 year old schoolchildren in a survey in London, and they concluded that "this belief will block the uptake of information from health education programmes" (White et al., 1988, p.117).

However, the support for the prevalence of this attitude amongst the senior pupils in the present survey is conflicting. On the one hand, they gave positive responses to the queries on the content of a possible AIDS education course, and they affirmed the school's role in such a programme. On the other hand, the careers counsellor at the co-instructional senior schools reported that the standards 8 and 9 pupils had refused an offer of further teaching on AIDS in guidance classes this year. Only the standard 8 class at the co-educational school was given instruction (see teachers' report, p 58).

Research needs to be done to find out if the uptake of information on AIDS is being hampered by negative student attitudes. The reasons for such attitudes would also need to be identified so that steps could be taken to remedy the situation. It might also be helpful to determine whether the guidance period is the most favourable slot in the timetable or, indeed, whether it should be the only time allocated for AIDS education. Many education departments have tacitly assumed this to be so (see pp 14-17).

3.3.2. Standards 5 and 7 pupils

Despite a lack of formal teaching of AIDS (see p 58), about 90% of the standard 5 pupils have gathered some accurate information on AIDS transmission and about 85% are able to recall one or more symptoms of the disease. Whilst a statistical comparison between the standard 5 and the standard 7 results is not possible, it is interesting to note that over the three questions requiring a knowledge of sexual transmission (Q 2.2.1 — 2.2.3), the median score for the standard 7 pupils was approximately 89%. This does not suggest that the standard 7 pupils have made significant knowledge gains in this area over the standard 5 pupils. Further, the overall knowledge of the standard 7 pupils was significantly poorer than that of the standard 9 pupils.

Sroka (1988) suggests that the most concentrated teaching about AIDS should be given to 12- to 13-year-olds. 90,8% of the standard 5 pupils (median age 12 years) indicated that they wanted school-based AIDS education. Further evidence of the receptiveness of this age group is shown in the letters in Appendix 11, pp109—10. A large proportion of the standards 7 and 9 pupils also chose 12 or 13 years as the best age to start receiving instruction on AIDS. Some of the reasons they gave were : " It should not be too young as you won't understand but one must require (sic) knowledge before you are 14" ; "At this age most people will not have had any sex and can still be warned for later life" ; "Because of the amount of teen pregnancies I think it is important to know about AIDS as soon as possible. Under 11 is too young".

These respondents show that they are aware that adolescents need to be cognitively mature enough to be able to comprehend the facts about AIDS and its transmission, which is a prerequisite to understanding the implications of this new disease for their social lives and personal sexual behaviour.

It would seem to be essential that an effective teaching programme for this age group should be developed and evaluated to ensure that the opportunity for intensive teaching on AIDS is not being missed.

3.3.3 Possible 'filters' of information

* Sex (social conditioning) — male and female pupils.

No significant differences were found in the knowledge of the boys and girls in this sample.

* Race (ethnic values and traditions) — black and white pupils.

More black pupils than white pupils correctly answered that the AIDS virus can be transmitted in breast-milk but fewer were able to identify homosexual transmission of the virus, and to place semen as a fluid with a very high viral content. The sample used in this research was not random and therefore further analysis of these results was not warranted. An investigation, using a larger random sample of black children, to find out whether their beliefs about and perceptions of AIDS are influenced by ethnic values or by their social conditioning, could provide necessary direction to the structuring of AIDS programmes appropriate to the needs of black children, in black schools or in integrated schools. Schurink and Schurink (1990) urge that AIDS educators should remain informed on and sensitive to cultural factors that may influence perceptions of AIDS, so that differentiated teaching may be provided, if necessary.

4. Attitudes

4.1 Fears and Worries

As stated in Chapter 1, the intention behind any course of AIDS education is to teach pupils to live alongside possible HIV-positives in such a way that they themselves will not become infected. Whilst knowledge of AIDS and how people become infected with HIV is a necessary prerequisite for understanding what will constitute safe behaviour, it is not of itself generally sufficient to achieve appropriate behaviour changes (Reader et al., 1988; Hingson et al., 1990; Mathews et al., 1990). An important motivation for changing risky behaviour patterns or for initially establishing safe behaviour patterns, is the perception that AIDS constitutes a personal threat (Mathews et al., 1990).

That there are feelings of vulnerability amongst these subjects is evident. The second most frequently expressed fear of the standard 5 pupils was that they did not know how to protect themselves against AIDS, and a third of them asked to be taught how not to get it. From the five

options of worries or fears about AIDS, the senior school pupils selected least frequently the inability to protect themselves, yet in the open-ended responses, 30,1% of the respondents specifically mentioned that not knowing how to protect themselves (or their family members or friends) was cause for concern. Almost all of the standard 7 and 9 pupils wanted prevention of AIDS infection and, more specifically, an explanation of 'safe' sexual behaviour, to be included in an AIDS education course.

A useful outcome of the analysis of these questionnaires was that it revealed the need for research amongst a **wider** random sample of adolescents in order to find out what methods and behaviours they believe afford protection against AIDS. This could give guidance on what further teaching in this important area is needed.

4.2 Opinions on possible benefits of AIDS to mankind

Almost 70% of the respondents were able to find something that they thought was beneficial about AIDS (see p 45). Two thirds of the pupils who said that AIDS would prevent overpopulation were males. Several of these answers had moralistic overtones, as they stated that the undesirable elements of society such as homosexuals, drug addicts and prostitutes would be eliminated, or that AIDS was a punishment from God. As with intolerance, such judgmental attitudes indicate a reluctance to come to terms with the possibility of personal risk.

Those pupils who suggested that AIDS was the solution to overpopulation were clearly looking at only one effect of the disease. Such a limited viewpoint indicates the necessity for further teaching about the social and economic implications of the disease, including the effect on the labour force, and the cost to the country of giving proper care to people dying from a long and painful illness such as AIDS.

Two thirds of those who believed that the benefit would be that human beings would change their risky behaviours were females. This is a more optimistic, less self-centred perception of the situation created by AIDS. It could open the way to a discussion of the behaviours that the pupils mentioned — drug-taking, promiscuity, and homosexuality — all topics which most education departments include for teaching in their sex and health education programmes, and which adolescents need to understand if they are to make informed choices for their lives.

4.3 Attitudes towards an AIDS sufferer

A considerably greater proportion of black pupils than white pupils would ask to be removed from the proximity of an AIDS sufferer in their schoolroom. They also showed greater awareness of the likelihood of rejection by others should you have AIDS. Similar attitudes of avoidance, and of concern over being rejected, were prevalent amongst the black students in the Cape survey (Mathews et al., 1990). It would be helpful to know if the cause of this attitude is a lack of understanding that day-to-day contact with an AIDS sufferer is without risk, or whether ethnic values and customs were influencing the pupils. One way to try to find out would be to use a pre-test, lesson and post-test format such as used by Miller and Downer (1988). Appropriate teaching to reassure these students, and to develop greater tolerance, could then be planned. The pupils' concern over being ostracised by society could be used constructively as powerful motivation for the adoption of preventive behaviour.

Taken as a whole, from their responses to the closed item questions in Q 3.4, about three quarters of the standard 7 and 9 pupils were prepared to be tolerant or circumspect in their attitudes towards an AIDS sufferer. Their free responses ranged from sympathy and understanding to self-protective rejection as illustrated by the following: "I would try to get to know him/her and act normally. They are also people and being around them has no danger involved. They diserve (sic) as much chance as they can get"(13 year old white female); "I would try and get him/her in a hospital"(15 year old black male); "I would question him/her from a distance"(14 year old white female); "I think I would reject him or her, as I believe that I am too young to catch this sickness (viress)" (15 year old white male). The sympathetic answers generally indicated that the pupil understood that there was no risk of transmission from daily contact with AIDS sufferers, while the intolerant answers showed that the respondent believed that there was. The girls' responses to the closed item questions were found to indicate greater tolerance for an AIDS sufferer than the boys' responses (see p 46). If this is related to the differential socialisation that Block (1973), and also Fetters (1976), found that parents and other adults applied to boys and girls in the USA (in Biehler,1981), then perhaps some of these girls see themselves in the role of comforters and caregivers to others, including AIDS sufferers. On the other hand, more boys may have been encouraged by parents and teachers to believe that their main aim in life is to succeed and to let nothing, least of all someone who is terminally ill, hinder their progress. It might be of benefit to caution the girls against sentimentalising the situation, and their role in it. Some of the boys might need to be helped to be more sensitive to the needs of people who are ill by making hospital visits to a children's ward. This might also help to allay any fear that sick people are always

infectious (see response of 15 year old white male). The danger of intolerance, as already stated, is denial of personal risk, with concomitant difficulty in convincing such pupils of the need to change their behaviour or to maintain safe behaviour.

5. Developing Guidelines for AIDS education

> Beyond the year 2000, the eventual endemic level of HIV/AIDS in any specific population or country will be a measure of both the commitment and effectiveness of AIDS prevention programs in the 1990s. (Chin and Mann, 1990, p135).

In the following discussion, various guidelines which have been derived mainly from the responses of the pupils to the questions dealing with "the who, what, when and how of HIV education" (Liontos, 1989, p1), as well as the "where", will be offered, with support from the findings of other researchers.

5.1 A co-operative community approach to school-based AIDS education — the context or 'where' of AIDS education

Despite the differences in sexual maturity of the standard 5 boys and girls, with many of the girls growing into womanhood while most of the boys are still very immature, both sexes showed a continuing dependence on their parents, particularly the mother, for discussing the serious matter of AIDS. The standards 7 and 9 pupils opted for teachers and friends above parents to supply information on AIDS, and the school rather than the home as the most appropriate place to get AIDS education (see p 47, and p 48 for Table 8). Interestingly, more of the standard 5 pupils also indicated that they would prefer, in future, to learn about AIDS from a school-based programme of lessons and talks rather than by talking to parents and friends (see p 56 for Tables 15 and 16).

It would seem that all three groups of pupils have confidence that they will get the most accurate information on this scientific and medical matter from professional educators. It is essential that those to whom the responsibility of an AIDS education programme has been entrusted, should "maintain factual credibility with their audience" (Griffiths, 1985, p 172), by keeping abreast of new developments in the AIDS pandemic. To this end, all available sources of information should be used. Several education departments in this country have supplied the schools with information pamphlets and fact sheets but, as already stated (see p 21), a central organisation similar to that in the USA, is needed to make the dissemination of knowledge efficient. Such an organisation could bear the expense of acquiring a variety of videos, posters, pamphlets, and slides that could be loaned or distributed to the schools. A list of experts willing to give talks at

schools could be compiled. An ongoing programme of in-service training for all teachers, such as was suggested by Liontos (1988), could be implemented and administered by this central organisation. However, until such an organisation is formed, these four schools could, as an interim measure, combine information and teaching resources, and should draw on local expertise for training teachers in AIDS education.

Particular note needs to be taken of the expressed wish of the younger pupils for parental support in coping with AIDS. This should serve as the cue for a concerted community effort. School and home, and possibly also the church, should combine to provide sustained and omnipresent support for the young people of the community. It is important for children, adolescents in particular, to realise that the adults in the community do understand the difficult decisions they have to make with regard to their personal sexual behaviour, and the fears aroused in them by the existence of AIDS. McCormick (1987), Sroka (1988), Liontos (1989), and Schurink and Schurink (1990), as well as the IUHE task force (1988), have all advocated that AIDS education should be given in the context of a supportive community. These researchers and policy-makers advise that parents (and community leaders) should be involved in establishing school-based AIDS education programmes. The AIDS issue has been variously described as 'volatile' (Sroka,1988), 'sensitive', and 'controversial' (Liontos,1989). However, Sroka(1988) maintains that the situation becomes de-fused if the parents and other members of the community are co-designers of the programme, and are completely *au fait* with what will be taught at school.

Although most of the subjects of this survey were boarders, their parents attend several major functions during the course of the year which would provide an opportunity for liaison with the school on AIDS education. Further, several parents serve on the parent teacher associations, and on the school councils, and could be involved at these levels.

It has been stated that objections may be expected from religious organisations to those aspects of AIDS education in which it is acknowledged that some teenagers may be sexually active and, therefore, ways to protect them from becoming infected with AIDS are offered (see p 3). Greathead (1990) warns that in the RSA we might, as in the USA, fall into the trap of anticipating objections where none has been made. As a result, an AIDS education programme may be needlessly circumscribed so that it uncompromisingly offers chastity before marriage as the only acceptable AIDS prevention method. For teenagers who are already sexually active, such a message is irrelevant, and may even work counter to the possibility of a change to safe behaviour. The alternative, suggested by Greathead (1990), is to enlist moderate church groups to work with

parents and school officials "to create a curriculum that meets the community's needs" (McCormick, 1987, p 58). The church is a strong influence in all four of these private schools, and the members of the clergy who are on the staff or who visit the schools could make a significant contribution in designing an AIDS education programme which is both appropriate and effective.

It is encouraging to note that the guidance offered to adolescents in the sexuality/health/AIDS education programmes of several education departments in the RSA, whilst in no way abdicating a position of support for high moral standards, indicates a realistic understanding of human sexuality (pp 15 — 16, and p 18).

Underlying every AIDS education programme should be the recognition that the rights of the individual have to be protected but, at the same time, the health of the community must be safeguarded (Schurink and Schurink, 1990). In these four schools, which are non-racial, and predominantly boarding and therefore marked by close communal living, it is essential that religious, cultural and psycho-social factors, which might modify certain sections of this target group's perceptions of AIDS, should be taken into account. Members of the community itself, rather than some external authority, should be most able to ensure that due note is taken of these differences, so that the AIDS education programme does not offend the sensibilities of any ethnic group represented in the schools, nor does it stigmatise any particular group of people.

A decision that would need to be made is where the programme of AIDS education would best be integrated into the school curriculum. The majority of the standards 7 and 9 pupils opted for its inclusion in a general sex education course (see p 49, Table 10). In agreement with this opinion, designers of AIDS health education courses such as McCormick (1987), Masters et al. (1988), and Allensworth and Symons (1989), as well as curriculum designers in education departments in the RSA, USA and Denmark, advocate that AIDS education should be incorporated into the STD component of a comprehensive self-health and/or family guidance programme.

It is also important to decide whether the boys and girls should be taught separately or together. Both the standards 5 and 7 pupils, particularly the girls, indicated that they preferred not to discuss AIDS with a friend of the opposite sex. It would seem sound educational practice to separate the boys and girls for the sex and AIDS education course up to this stage of schooling, and possibly even for the standard 8 pupils. As the majority of the standard 9 pupils indicated that they would

be happy to get information on AIDS from friends of both sexes, it may be inferred that boys and girls should be taught together in standards 9 and 10. It is important for the boys to be able to hear what the girls feel about these matters, and vice versa. From her experience as a visiting speaker to many Natal schools, Tomaszewski (1989) has found that the arrangements suggested here work very well.

5.2 The content - the 'what' of AIDS education

If the free responses of the standard 5 pupils are compared with the responses of the standards 7 and 9 pupils to closed and open questions, a high degree of concurrence is found. Most pupils asked to be told what AIDS is, what it does, how you get infected with AIDS and how to prevent it. Some also asked about the origin of AIDS, about a cure, about testing for AIDS and for guidance on how to behave towards people who have AIDS (see pp 50-1, and p 57). Some of the older pupils also expressed the need to know where to get help if you think you might be infected with AIDS. Most standards 7 and 9 pupils chose the topics 'safe sex' and 'drugs and AIDS' for inclusion in an AIDS education programme, emphasising that they are aware of the importance of knowing about prevention. As there has only been one reported case of AIDS infection through the intravenous route in the RSA, departmental teaching programmes tend to gloss over this means of transmission, but clearly these pupils are not complacent about it. From time to time, spurious stories that only people who take certain drugs develop AIDS are published (see p 4). The pupils should be helped to appreciate that certain elements of the press thrive on sensationalism at the expense of truth, and that stories which deviate from the scientific and medical mainstream are unlikely to be true.

Several students in all three age groups asked to be told where AIDS originated. There is no certain answer to this question and it is a politically charged issue (Chirimuta and Chirimuta, 1987; Raymond, 1990). However, a discussion of this topic should not be avoided merely because it is controversial. It provides a good opportunity for the airing of any feelings of stigmatisation that some of the pupils may feel, e.g. black pupils may feel that black people are being unjustly blamed for the origin of AIDS. It may also be used to help to teach children, especially the younger ones, that we cannot simply believe what we would like to believe (Driver and Easley, 1978). Even after consideration of all the evidence, some issues may not be able to be definitely decided (see Appendix 11, letter 1).

5.3 The time schedule - the 'when' of AIDS education

The majority of the senior school pupils stated that by 13 years of age, adolescents needed to get information on AIDS because of their increasing sexual awareness and because of the social adaptation required with the transition from junior to senior school. They also indicated that, at this age, understanding of the concepts of AIDS was possible without evoking undue concern (see p 47). Only two of the standard 5 pupils did not comment on what they would like to learn about AIDS, suggesting that the majority of these 11 — 13 year olds felt both the need for AIDS education and the capacity to comprehend it (see p 57).

The time schedule laid down in the teaching programme of the Transvaal Education Department, would seem a good one to follow. It is suggested that up until standard 5, specific AIDS education need not be offered but any questions from the children should be answered factually and honestly. Bock and Hoch (1988) add that reassurance should be given that AIDS is not the pupil's problem. Thereafter, AIDS teaching for standards 6 to 10 should be formalised, and should be specifically aimed at prevention.

5.4 Suggested teaching methods - the 'how' of AIDS education

An important issue, raised specifically by Liontos (1989) and incorporated into the programme designs of Bock and Hoch (1988) and Sroka(1988), is that AIDS education needs to be given **repeatedly**, as children do not remember everything after one exposure to the information. Further, it should become more detailed as the cognitive ability of the learner develops and more explicit as sexual maturity increases.

It has been suggested that a problem could arise with the more senior pupils if they considered themselves to be more knowledgeable about AIDS than they really were (White et al.,1988). They would not appreciate the need for repetition, and repeated deliberate teaching of AIDS could lead to a defensive or a rejecting attitude in some students. A diagram depicting a possible cross-curricular interdisciplinary approach that could be adopted by these schools, is given in Figure 3, p 75). Not all the activities would need to be carried out in any one year. That detail could be worked out for each school. However, by using information pertaining to the disease, its incidence, and its economic and social implications in order to teach skills necessary in other subjects, much incidental learning about AIDS could occur.

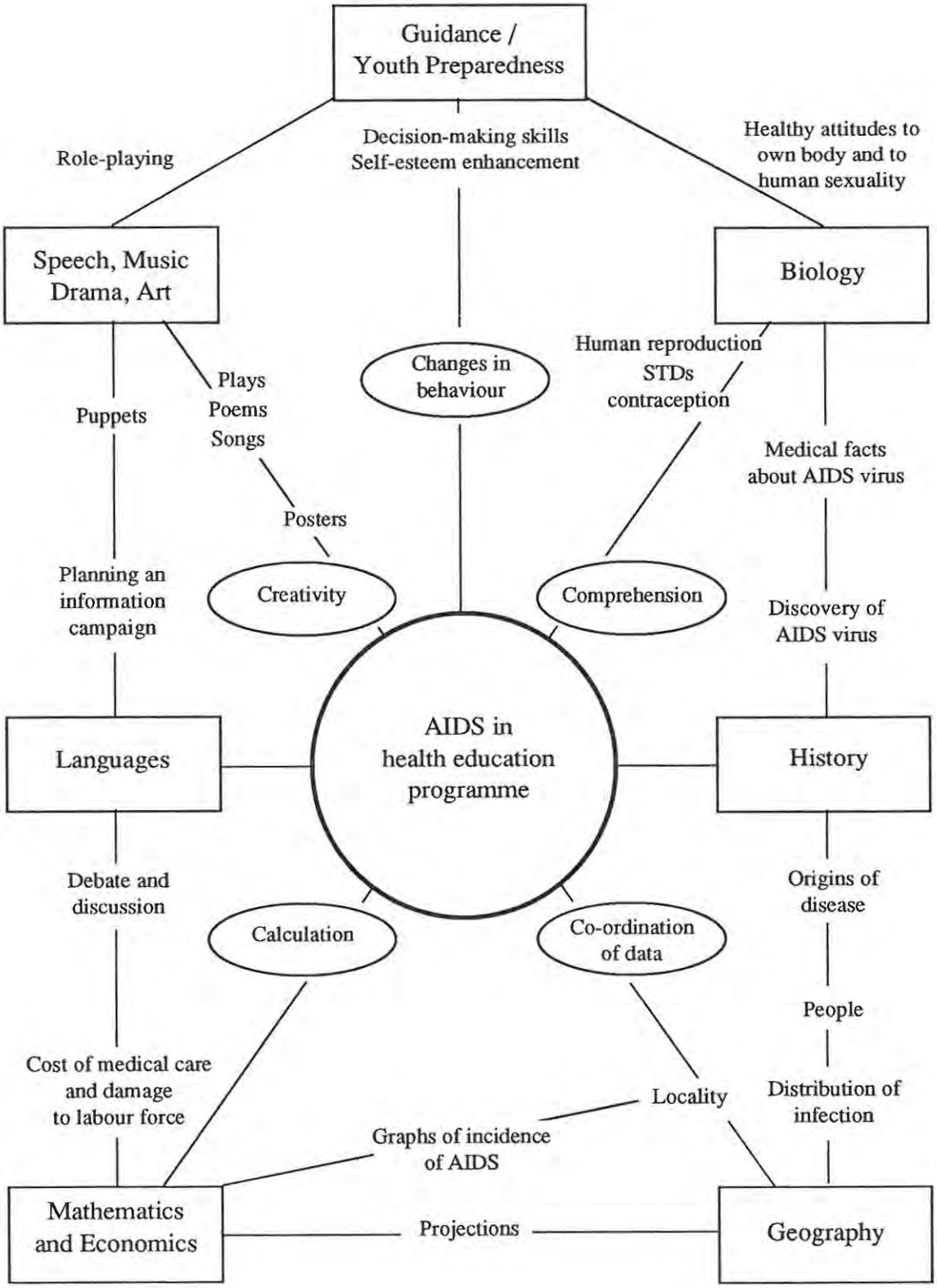

Figure 3: Cross-curricular opportunities in ongoing AIDS education adapted from Opie F.W.J. (1989) p.13

Researchers such as White at al. (1988) and Hingson et al. (1990) have stated that interpersonal interaction is an essential prerequisite to effect behaviour change, and have recommended "small group focussed discussion or individual counselling" (White et al.,1988, p 119). The majority of the standards 7 and 9 pupils preferred group discussions or group discussions with lectures (see p 49) and the standard 5 pupils preferred learning about AIDS through interpersonal interaction rather than the media (see p 56).

What is essential is that the skills of refusal (Tomaszewski,1989), decision-making, coping with peer pressure, self-assertiveness and self-esteem enhancement should be taught (Allensworth and Symons, 1989). McCormick (1987) suggests that AIDS education should be integrated into the broader context of teaching adolescents personal responsibility.

There are various educationally sound, interpersonal methods of teaching children these skills and the ability to empathise, some of which are listed here:

* role-playing, which would enable children to see the other person's point of view.

* suggesting a practical problem or moral dilemma for resolution by the pupils, either individually or when working as a team.

* training pupils so that they are able to "present activities in class which focus on decision-making, peer pressure, communication skills and values clarification, whilst imparting accurate information about health risks and prevention" (Gillies, 1988, p 123). Part of the success of this kind of teaching is that it is seen as less prescriptive than when adults are in direct charge. It also allows for the greater involvement of the recipients.

* visits to schools by HIV-positives, which could promote understanding amongst the pupils of what it must feel like to know you may become terminally ill within the foreseeable future. Meeting such people could increase tolerance and compassion among students, with the concomitant awareness that anyone who behaves in a risky manner could become infected.

* talks by medical professionals who are able to empathise with teenagers, and show them that they understand the difficulty of the choices they have to make regarding their personal sexual behaviour.

* the use of videos, such as that reported on by Solomon and DeJong (1989), which depict the types of situation in which adolescents could be exposed to the risk of AIDS. The viewers are able to readily identify with the characters who are shown to handle the situation appropriately to prevent risk yet, at the same time, to enhance self-esteem. It is essential that the video should be previewed in order to evaluate its suitability for a particular group of pupils.

* encouraging pupils to produce their own puppet shows or 'situation' plays which depict adolescents dealing effectively with peer pressure.

* maintaining a bulletin board of news about AIDS. Differing points of view on controversial issues concerning AIDS could be posted with advance notice of class discussions on the topic, to enable the students to prepare a contribution. Information on AIDS clinics and counselling centres could also be displayed.

* particular members of staff could be appointed to act as tutor or counsellor to specific groups of pupils in order to give individual counselling.

5.5 Available expertise - the 'who' of AIDS education

The essential role of well-informed teachers in AIDS education has already been discussed (see pp 70—1). Mention has also been made of the value of peer teaching, and of the importance of the personal testimonies of HIV-positives in influencing pupils' attitudes towards AIDS and AIDS sufferers.

However, whilst schools can certainly do a great deal to provide information on AIDS and can help to shape more positive attitudes in young adolescents by dispelling ignorance and fear of the disease, there are certain matters that are vital for the protection of young people which are not within the province of the school (Hingson et al., 1990; Howe, 1990; Raymond, 1990). These matters are to do with the actual practicalities of human sexual behaviour and contraceptive practices necessary to prevent infection from AIDS. A large part of our population already appear to regard AIDS education as a matter to be taught by health professionals (see p 18 and p 19-20). The role of the Department of Health and of the medical profession, both doctors and nurses, in promoting less risky behaviour among sexually active adolescents may indeed be of vital importance. The involvement of medical professionals would place the emphasis on the need to remain healthy. The high credibility of medical professionals amongst adolescents and their

parents would enable preventive methods to be seen as responsible behaviour. Further, Hingson et al. (1990) found in their Massachusetts statewide survey that sexually active adolescents who had discussed AIDS with their physicians were more likely to adopt behaviours to avoid risk of infection than those who had not.

5.6 Evaluation of AIDS education programmes

This is an area which tends to be overlooked, especially in the type of 'emergency' situation created by the AIDS pandemic (Gillies, 1988). It must be stressed that education is imprecise and imperfect, and that any AIDS education programme that is implemented will require continual evaluation to determine its effectiveness, and to decide on any changes that may be required. This evaluation could be conducted by means of surveys, pre- and post-testing, structured interviews, observation and any other available means. Only by doing this can the level of awareness of the needs of the pupils be maintained and an assessment be made of how effectively these needs are being met.

CHAPTER 6 : CONCLUSION

From this study it was found that, whilst the senior pupils were better informed than the standards 5 and 7 pupils, the knowledge of many of the pupils lacked scientific basis. Further, those misconceptions most likely to affect the pupils' attitudes towards and social interaction with AIDS sufferers or those suspected of harbouring the human immunodeficiency virus, persisted. Teaching methods which might prove effective in correcting these misconceptions and also in developing more tolerant attitudes, have been suggested. Cross-curricular activities in order to integrate AIDS education into the general school curriculum, whilst ensuring that the pupils receive repeated, but subtle exposure to information, have been proposed. Guidelines on which an AIDS education programme could be based, have been offered.

Fears arising from the unique features of the disease — the hidden latency period, the lack of a cure, and the prospect of a protracted and painful death — were common. There was also an awareness among the pupils that the fear of infection could influence affective aspects of their lives, particularly when choosing a life partner. It was clear that these pupils perceived a need to learn more about methods of prevention of AIDS and that they placed a good deal of reliance on the school's ability to be able to meet this need.

This research has probably raised more questions than it has provided answers, and several areas requiring further research have been highlighted. There is a need to determine those factors which could hamper the uptake of information on AIDS transmission and prevention, whether these lie in general student attitudes, or in cultural differences, or in ethnic values, or in the type of social conditioning received. This is essential if the AIDS education in these non-racial schools, attended by both boys and girls, is to be effective. Moreover, as increasingly more schools in the RSA are opting for an open model and as the possibility of integrated schooling becomes more likely, there is an urgent need to ensure that all pupils in the RSA have a sound knowledge of how AIDS is transmitted to attempt to avoid stigmatisation of a particular group, or a panic response with racial overtones (O'Farrell and Will, 1989). The existing knowledge of preventive methods against AIDS amongst these adolescents should also be investigated in order to determine what information is still needed to protect the health of these students.

Possibly the most important area of research arising from this study is the need to investigate the effectiveness of the sex education programmes in these schools. This research and evaluation

would appear to be a necessity for all the schools in the RSA, as accurate and relevant sex education would seem to be a prerequisite to effective AIDS education. With this in mind, further research also needs to be done on the role that the medical profession could play in assisting the schools in overcoming "people's social discomfort and biases about AIDS" (McCormick, 1987, p 59), and in assisting the students to make those changes in their behaviour needful to protect their health. Again, this research should be conducted nationwide as all schoolchildren in the RSA require effective AIDS education.

> The challenge of AIDS cannot be met by armchair theorising and looking hopelessly at the terrifying statistics. We can only start to meet it if we all become AIDS educators, at every available opportunity, especially those of us in contact with young people and their teachers. Their future is our responsibility. (Baker, 1988 , p 27).

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UPDATE: AIDS IN SOUTH AFRICA (as on 08/08/90)

Table A1: Annual number of cases reported in South Africa

Year of diagnosis	Total cases	Deaths	Case-fatality rate (%)
1982	2	2	100
1983	4	3	75
1984	8	8	100
1985	8	8	100
1986	24	23	96
1987	39	31	79
1988	88	50	57
1989	157	68	43
1990	125	22	18
Total	455	215	47

Table A2: Age and sex distribution of AIDS cases

Age group	Sex		Total
	Male	Female	
0-9	15	9	24
10-19	5	8	13
20-29	55	34	89
30-39	116	20	136
40-49	52	1	53
50-59	16	5	21
60-69	6	2	8
70+	1	0	1
UNKNOWN	89	21	110
Total	355	100	455

Table A3: Transmission category by ethnic group and sex

		Homo/bi sexual	Hetero sexual	Haemo philiac	Trans fusion	IVDU	Paed iatric	Total
Asian	M	3	1	0	0	0	0	4
	F	0	0	0	0	0	0	0
Black	M	2	61	3	3	0	13	82
	F	0	78	0	0	0	13	91
Coloured	M	9	1	1	1	0	0	12
	F	0	2	0	1	0	0	3
White	M	231	8	9	8	1	0	257
	F	0	2	0	4	0	0	6
Total	M	245	71	13	12	1	13	355
	F	0	82	0	5	0	13	100
Grand total		245	153	13	17	1	26	455

Information released by the Department of National Health and Population Development, based on anonymous data supplied by the SAIMR.

Table B. Reported AIDS cases in the rest of Africa and the RSA (cumulative totals).

Year	Africa	RSA
1982	2	2
1984	98	14
1986	3849	45
1988	20904	166

Table C. Projections for RSA (cumulative totals)

Compliled by Dr van der Merwe: Sanlam: based on trends since 1982

Year	Best expectation	Average	Poorest expectation
1989	126	235	344 (actual number was 330)
1991	338	1570	2752
1993	1187	11597	22016
1995	3634		

List of Teaching Programmes, Textbooks and Software in the USA

EJ 379209 SE 543142
Teaching about AIDS
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Person, Mark A.
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Weaver, Dave
Northwest Regional Educational Lab., Portland, Or. Technology Program.
Jan 1989.

Appendix 3

List of Education Departments to which letters requesting information on AIDS education policies and programmes were posted in July 1990.

List of Departments to which letters were sent.

1. The Director-General Department of Education and Training, Pretoria.
   - 1.1 The Regional Director of the DET., Pretoria, Transvaal.
   - 1.2 The Regional Director of the DET., Vereeniging, Transvaal.
   - 1.3 The Regional Director of the DET., Booysens, Transvaal.
   - 1.4 The Regional Director of the DET., Springs, Transvaal.
   - 1.5 The Regional Director of the DET., Bloemfontein, O.F.S.
   - 1.6 The Regional Director of the DET., Pietermaritzburg, Natal.
   - 1.7 The Regional Director of the DET., North End, Port Elizabeth, Eastern Cape.
2. Department of Education of the Cape of Good Hope, Cape Town.
3. Department of Education of the Transvaal, Pretoria.
4. Department of Education for Natal, Pietermaritzburg.
5. Department of Education of the Orange Free State, Bloemfontein.
6. Administration House of Representatives, Department of Education and Culture, Cape Town.
7. Administration House of Delegates, Department of Education and Culture, Durban.
8. The Secretary of Education, Siyabushwa, KwaNdebele.
9. The Secretary of Education, Ulundi, Kwazulu.
10. The Secretary of Education, Kanyamazane, Kangwane.
11. The Secretary of Education, Giyani, Gazankulu.
12. The Director-General of Education, Sibasa, Venda.
13. The Secretary of Education, Umtata, Transkei.
14. The Director-General of Education, Zwelitsha, Ciskei.
15. The Secretary of Education, Mafekeng, Bophuthatswana.
16. The Secretary of Education, Chuenespoort, Lebowa.
17. The Secretary of Education, Witsieshoek, Qwaqwa.

Copy of letter sent to education departments

23 July 1990

Dear Sir/Madam

AIDS EDUCATION RESEARCH

I am currently researching the status of AIDS education in Junior and Secondary Schools in Africa, Europe and America. It has been stated that education is our only defence against this rapidly spreading disease.

Could you please send me the following:-

a) a statement of your Department's policy on AIDS education;

b) a copy of any teaching programme(s) on AIDS your Department may have drawn up;

c) a list of schools in which the teaching programme on AIDS has been implemented;

d) a brief evaluation on AIDS education effectiveness;

e) any other information on AIDS education you may feel would be relevant.

If NO teaching programme has been introduced in your Department, I would appreciate a statement to this effect.

Enclosed please find a stamped addressed envelope for your reply.

For my part, I undertake to send you a summary of my findings when I have completed my research.

Thank you.

Yours faithfully

Appendix 5

Questionnaire A for standards 7 and 9 pupils

AIDS EDUCATION

For office use only

1. ***Please fill in your personal details so I can classify your answers correctly.*** 1—3

Put a ✓ in a box to show your answer. Please do not make any crosses.

1.1 *Name of your School* DSG [1] Kingswood [2] SAC [3] SAP [4] — 4

1.2 *Standard* 5 [1] 7 [2] 9 [3] — 5

1.3 *Age* 11 [1] 12 [2] 13 [3] 14 [4] 15 [5] 16 [6] 17 [7] 18 [8] — 6

1.4 *Home language* English [1] Afrikaans [2] Xhosa [3] Zulu [4] — 7
Sotho [5] Tswana [6] Other [7]

1.5 *Father's occupation* farming/ conservation [1] scientific/ technical [2] retired/ unemployed [3]
education [4] religious [5] engineering [6] — 8
business [7] legal [8] medical [9] other [0]

1.6 *Mother's occupation* farming/ conservation [1] scientific/ technical [2] secretarial [3]
business [4] housewife [5] legal [6] — 9
medical [7] education [8] other [9]

1.7 *The Country or province where you live* Cape [1] OFS [2] Natal [3] Tvl [4] — 10
Homeland [5] Namibia [6] foreign [7]

1.8 *Race* White [1] Black [2] Coloured [3] Indian [4] Asian [5] — 11

1.9 *Sex* Male [1] Female [2] — 12

1.10 *Boarder* yes [1] no [2] — 13

1.11 *Tick the number of brothers and sisters you have*

	0	1	2	3 or more	
Older Brothers	[1]	[2]	[3]	[4]	14
Younger Brothers	[1]	[2]	[3]	[4]	15
Older Sisters	[1]	[2]	[3]	[4]	16
Younger Sisters	[1]	[2]	[3]	[4]	17

2. ***What you already know about AIDS***

2.1 What do the letters AIDS stand for? Spelling does not matter! — 18

A ..... I ..... D ..... S .....

Appendix 5 continued

2.2 How do people get infected by the AIDS virus?
Put one tick per line to show your answer.

		Yes	No	Don't know	For office use only	
2.2.1	can an infected man pass on AIDS to another man with whom he has sex?	1	2	3		19
2.2.2	can an infected man pass on AIDS to a woman with whom he has sex?	1	2	3		20
2.2.3	can an infected woman pass on AIDS to a man with whom she has sex?	1	2	3		21
2.2.4	can you get AIDS from kissing someone with AIDS on the cheek or lips (dry kissing)?	1	2	3		22
2.2.5	can you get AIDS from hugging someone with AIDS?	1	2	3		23
2.2.6	can you get AIDS if someone with AIDS coughs over you?	1	2	3		24
2.2.7	can you get AIDS from using the same toilet seat as someone with AIDS?	1	2	3		25
2.2.8	can you get AIDS from using the same swimming pool as someone with AIDS?	1	2	3		26
2.2.9	can you get AIDS from a mosquito bite?	1	2	3		27
2.2.10	can you get AIDS by using the same cup as someone with AIDS?	1	2	3		28
2.2.11	can you get AIDS from a blood transfusion?	1	2	3		29
2.2.12	can you get AIDS from using the same injection needle as someone with AIDS?	1	2	3		30
2.2.13	can a woman with AIDS infect the baby developing in her womb?	1	2	3		31
2.2.14	can a woman with AIDS infect a baby she breastfeeds?	1	2	3		32

2.3 Which body fluids contain ***very high*** concentrations of the AIDS virus in an AIDS sufferer?
Put one tick per line to show your answer

		Yes	No	Don't know		
2.3.1	saliva	1	2	3		33
2.3.2	semen	1	2	3		34
2.3.3	vaginal secretions	1	2	3		35
2.3.4	blood	1	2	3		36
2.3.5	sweat	1	2	3		37

2.4 Which body cells does the AIDS virus affect?
Put one tick per line to show your answer

		Yes	No	Don't know		
2.4.1	red blood cells	1	2	3		38
2.4.2	the sperm cells	1	2	3		39
2.4.3	the egg cells	1	2	3		40
2.4.4	one type of white blood cell	1	2	3		41
2.4.5	all our white blood cells	1	2	3		42

2.5 What effect does the AIDS virus have on the immune system of humans? ***Tick only one box.***

weakens it gradually [1] destroys it immediately [2] don't know [3] | | 43

For office use only

2.6 Up till now, how have you obtained information on AIDS?
Tick one box per line to show your answer.

2.6.1	From magazines, newspapers and books	yes [1]	no [2]		44
2.6.2	From radio and television	yes [1]	no [2]		45
2.6.3	From talking to parents and friends	yes [1]	no [2]		46
2.6.4	From lessons and talks at school	yes [1]	no [2]		47

3. Attitudes towards AIDS

3.1 AIDS has been described as "the plague of this century." Pick out the ***3 facts*** you find **most** worrying about AIDS. *Tick **the 3 boxes** of your choice.*

3.1.1	that it has no cure	[1]	48
3.1.2	that it is spreading so fast	[1]	49
3.1.3	that you feel you don't know how to protect yourself against it	[1]	50
3.1.4	that people who get AIDS will die from it	[1]	51
3.1.5	that people with AIDS are rejected by society	[1]	52

3.2 Would you like to make a further comment on your fears about AIDS? Write your comment here .....
..... 53-54
.....

3.3 Is there any thing about AIDS that you feel is good and that will benefit mankind?
.....
..... 55-56
.....

3.4 If a person who has AIDS joined your class at school, how would you feel?
Tick one box per line to show your answer.

	Do you think you would	Yes	No	Not sure	
3.4.1	avoid him/her entirely	[1]	[2]	[3]	57
3.4.2	make friends with him/her	[1]	[2]	[3]	58
3.4.3	ask that he/she be sent away	[1]	[2]	[3]	59
3.4.4	ask your parents or teachers to take you out of the class	[1]	[2]	[3]	60

3.4.5 *If none of these*, write here how you would behave towards an AIDS sufferer in your class.
.....
..... 61-62
.....

4. Learning more about AIDS.

4.1 **Where** do you feel is the **best place** to get information about AIDS. *Tick **only one** box.*
home [1] school [2] church [3] youth group [4] 63

4.2 At what age should you first start to get information on AIDS? *Tick only one box.*

Under 10 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐
14 ☐ 15 ☐ 16 ☐ 17 and above ☐

Give a reason for your choice of age. .....
.....
.....

For office use only ☐ 64 ☐☐ 65-66

4.3 **From whom** would you prefer to get information on AIDS? *Tick only one box per line.*

4.3.1	from your father	☐	from your mother	☐	both	☐	neither	☐	67
4.3.2	from a friend (same sex)	☐	from a friend (opposite sex)	☐	both	☐	neither	☐	68
4.3.3	from a friend about your own age	☐	from an adult	☐	both	☐	neither	☐	69
4.3.4	from a school principal	☐	from an ordinary teacher	☐	both	☐	neither	☐	70
4.3.5	from a minister	☐	from a school counsellor	☐	both	☐	neither	☐	71
4.3.6	from a male teacher	☐	from a female teacher	☐	both	☐	neither	☐	72

4.4 **How** would you like to get information on AIDS? *Tick only one box per line.*

4.4.1	on your own	☐	in a group	☐	both	☐	neither	☐	73
4.4.2	as a special course just on AIDS	☐	as part of a general sex education	☐	both	☐	neither	☐	74
4.4.3	from books and magazines	☐	from a video or TV film	☐	both	☐	neither	☐	75
4.4.4	from lectures	☐	from group discussions	☐	both	☐	neither	☐	76

4.5 What information should education on AIDS include? *Tick only one box per line.*

		Yes	No	Not sure	
4.5.1	the AIDS virus and its effect on the human body	☐	☐	☐	77
4.5.2	how people get infected with AIDS	☐	☐	☐	78
4.5.3	how to avoid getting AIDS	☐	☐	☐	79
4.5.4	how to find out if you are infected with AIDS	☐	☐	☐	80
4.5.5	what is "safe sex"	☐	☐	☐	81
4.5.6	homosexuality	☐	☐	☐	82
4.5.7	how to behave towards people who have AIDS	☐	☐	☐	83
4.5.8	which countries in the world have most AIDS and why	☐	☐	☐	84
4.5.9	drugs and AIDS	☐	☐	☐	85

Is there anything else you would like to learn in relation to AIDS? .....
.....
.....

☐☐ 86-87

Thank you for helping by filling in this questionnaire. The information you have provided will be used to plan a course to educate young people to make wise choices for their life styles.

MARGARET ROBINSON

Appendix 6

Questionnaire B for standard 5 pupils

AIDS EDUCATION

For office use only

1. ***Please fill in your personal details so I can classify your answers correctly.*** [ ][ ][ ] 1—3

Put a ✓ in a box to show your answer. Please do not make any crosses.

1.1 *Name of your School* DSG [1] Kingswood [2] SAC [3] SAP [4] [ ] 4

1.2 *Standard* 5 [1] 7 [2] 9 [3] [ ] 5

1.3 *Age* 11 [1] 12 [2] 13 [3] 14 [4] 15 [5] 16 [6] 17 [7] 18 [8] [ ] 6

1.4 *Home language* English [1] Afrikaans [2] Xhosa [3] Zulu [4] [ ] 7
Sotho [5] Tswana [6] Other [7]

1.5 *Father's occupation* farming/ conservation [1] scientific/ technical [2] retired/ unemployed [3]
education [4] religious [5] engineering [6] [ ] 8
business [7] legal [8] medical [9] other [0]

1.6 *Mother's occupation* farming/ conservation [1] scientific/ technical [2] secretarial [3]
business [4] housewife [5] legal [6] [ ] 9
medical [7] education [8] other [9]

1.7 *The Country or province where you live* Cape [1] OFS [2] Natal [3] Tvl [4] [ ] 10
Homeland [5] Namibia [6] foreign [7]

1.8 *Race* White [1] Black [2] Coloured [3] Indian [4] Asian [5] [ ] 11

1.9 *Sex* Male [1] Female [2] [ ] 12

1.10 *Boarder* yes [1] no [2] [ ] 13

1.11 *Tick the number of brothers and sisters you have*

Older Brothers	0 [1]	1 [2]	2 [3]	3 or more [4]	[ ] 14
Younger Brothers	0 [1]	1 [2]	2 [3]	3 or more [4]	[ ] 15
Older Sisters	0 [1]	1 [2]	2 [3]	3 or more [4]	[ ] 16
Younger Sisters	0 [1]	1 [2]	2 [3]	3 or more [4]	[ ] 17

2. *What you already know about AIDS* Write your answers in the spaces provided.

For office use only

2.1 What do the letters AIDS stand for? Spelling does not matter! ☐ 18

A ..... I ..... D ..... S ..... .

2.2 How do you think a person could get AIDS? .....

..... ☐☐ 19-20

.....

.....

2.3 What does AIDS do to your body? .....

..... ☐☐ 21-22

.....

2.4 Is there anything that worries you or makes you afraid of AIDS? .....

..... ☐☐ 23-24

.....

3. *Learning about AIDS*

3.1 If you wanted to find out about AIDS would you ask *(Tick one box per line)*

	Yes	No	
3.1.1 a friend of the same sex	☐ 1	☐ 2	☐ 25
3.1.2 a friend of the opposite sex	☐ 1	☐ 2	☐ 26
3.1.3 your mother	☐ 1	☐ 2	☐ 27
3.1.4 your father	☐ 1	☐ 2	☐ 28
3.1.5 a sister or brother	☐ 1	☐ 2	☐ 29
3.1.6 your teacher	☐ 1	☐ 2	☐ 30
3.1.7 the chaplain or minister or priest?	☐ 1	☐ 2	☐ 31

4. *How would you like to learn about AIDS* *(Tick one box per line)*

	Yes	No	
From magazines, newspapers and books	☐ 1	☐ 2	☐ 32
From radio and television	☐ 1	☐ 2	☐ 33
From talking to parents and friends	☐ 1	☐ 2	☐ 34
From lessons and talks at school	☐ 1	☐ 2	☐ 35

5. *Write here what you would like to learn about AIDS* .....

.....

.....

Appendix 7

Questionnaire C for school personnel involved in AIDS education

Questions for Teachers

1. **Name of School:**

2. **Your position in it:**

3. **Health, sex or family education in your school**
   Please answer the following questions.

a) Which classes participate in this programme?
Please give the standards and subjects in which it is taught.

b) Is any mention made of STDs? Yes/No

At what age/class

Is specific instruction on AIDS given to the pupils Yes/No

i) in your classes

ii) in any other classes in the school?

c) <u>AIDS education</u>

1. **Medical facts about AIDS Are these facts taught?**

1.	preventable viral disease	Yes/No
2.	that it is incurable	Yes/No
3.	how it is transmitted	Yes/No
4.	how it is not transmitted	Yes/No
5.	high risk body fluids	Yes/No
6.	effect on the immune system	Yes/No
7.	symptoms of AIDS	Yes/No
8.	difference between HIV-positive and full-blown AIDS	Yes/No
9.	how to find out if you have AIDS	Yes/No

2. **Feelings, behaviours and Values Are these topics discussed formally with your pupils?**

1.	Fears of AIDS	Yes/No
2.	Attitudes to AIDS sufferers	Yes/No
3.	Safe behaviours	Yes/No
i)	chastity	Yes/No
ii)	condom usage in preventing AIDS - and its limitations	Yes/No
4.	High risk people	Yes/No
5.	Risky behaviours	
i)	Promiscuous sex	Yes/No
ii)	Drug taking	Yes/No
iii)	Sharing razors and toothbrushes	Yes/No
4.	Deepkissing	Yes/No
5.	What to do if you think you might be infected with AIDS	Yes/No

3. **Economic and Social Implications of AIDS. Do you discuss**

1.	Origin of AIDS	Yes/No

2.	Distribution of AIDS	Yes/No
3.	Predictions of AIDS spread	Yes/No
4.	Effect of AIDS on labour force	Yes/No
5.	Effect of AIDS on hospitals and medical care	Yes/No
6.	Effects of AIDS on family life	Yes/No

4. **From what sources do you think most of the pupils' information comes prior to your teaching them?**

   Place these in rank order.
   Magazines, newspapers, radio, television, books, parents, peers, teachers.

5. **What methods of teaching on AIDS have you found effective?**

6. Are boys and girls always taught together?

7. Do you get feedback on your lessons?

8. Is there any parent involvement?

9. Do you send parents information on your course?

10. How long has AIDS education been operating at your school?

Thank you

TABLE 1

STANDARD 7 AND 9

SECTION 1 - DETAILS OF SAMPLE

1.1	School	All Girls	Co-Ed	All Boys	Total
	%	26,2	30,3	43,5	363

1.2	Standard	5	7	9	Total
	%	-	46,8	53,2	363

1.3	Age	11	12	13	14	15	16	17	18	Total
	%	-	-	7,8	30,2	11,9	39,6	9,4	1,1	363

1.4	Home Language	English	Afrikaans	Xhosa	Zulu	Sotho	Tswana	Other	Dual	Total
	%	81,5	3,0	9,9	-	0,8	1,1	1,4	2,2	363

1.5	Father's Occup.	Farm/ Conserv	Scient/ Techn	Retd/ Unemp	Educ	Relig	Engin	Bus	Legal	Med	Other	Total
	%	18,3	3,9	1,1	11,0	1,4	9,0	36,9	2,8	7,6	7,9	355

1.6	Mother's Occup.	Farm/ Cons	Scient/ Techn	Secr	Bus	H/wife	Legal	Med	Educ	Other	Total
	%	1,1	1,7	7,5	23,3	31,1	1,4	7,2	14,4	12,2	360

1.7	Location	Cape	OFS	Natal	Tvl	H/Land	Namibia	Foreign	Total
	%	54,4	1,7	0,8	24,7	10,0	1,7	6,7	360

1.8	Race	White	Black	Coloured	Indian	Asian	Total
	%	76,2	16,6	3,3	3,3	0,6	361

1.9	Sex	Male	Female	Total	
	%	59,9	40,1	357	

1.10	**Boarder**	Yes	No	Total	
	%	79,4	20,6	354	

1.11		0	1	2	3+	TOTAL
	Older brothers	63,4	24,9	8,9	2,8	358
	Younger brothers	65,6	26,8	7,0	1,1	358
	Older sisters	62,0	27,4	8,7	2,0	358
	Younger sisters	62,6	30,7	5,9	0,8	358

STANDARD 5 SUBJECTS

1.1	School	All Girls	Co-Ed	All boys	N
	%	34,2	44,7	21,1	76

1.3	Age	11	12	13	14	Total
	%	5,3	61,8	31,6	1,3	76

1.4	Home language	English	Afrikaans	Xhosa	Zulu	Sotho	Tswana	Other	Dual	Total
	%	68,4	5,3	10,5	-	1,3	2,6	2,6	9,2	75

1.5	Father's Occupation	Farm/ Conser	Scient/ Techn	Retd/ Unemp	Educ	Relig	Engin	Bus	Leg	Med	Oth	Total
	%	25,0	6,6	-	19,7	3,9	2,6	28,9	1,3	5,3	6,6	76

1.6	Mother's Occupation	Farm/ Conser	Scient/ Techn	Secr	Bus	H/Wife	Legal	Med	Educ	Oth	Total
	%	-	2,7	8,1	17,6	31,1	-	8,1	18,9	13,5	74

1.7	Location	Cape	OFS	Natal	Tvl	H/Land	Namib	Foreign	Total
	%	73,3	1,3	-	6,7	10,7	4,0	4,0	75

1.8	Race	White	Black	Coloured	Indian	Asian	Total
	%	76,3	19,7	2,6	-	1,3	76

1.9	Sex	Male	Female	Total	
	%	48,7	51,3	76	

1.10	Boarder	Yes	No	Total	
	%	68,4	31,6	76	

1.11	Siblings	0	1	2	3+	Total
	Older Brother	61,8	26,3	7,9	3,9	76
	Younger Brother	59,2	32,9	7,9		76
	Older Sister	63,2	28,9	3,9	3,9	76
	Yonger Sister	65,8	26,3	3,9	3,9	76

TABLE D

A COMPARISON OF THE RESPONSES TO Q 2.2 OF STD 7 AND STD 9 PUPILS IN THE SAMPLE

QUESTION 2.2		STD 7 (%)	STD 9 (%)	
1.	SEX: MAN — MAN	N = 169	N = 192	p = 0,0029
	Yes No Don't Know	87,6 4,1 8,3	96,9 0,5 2,6	
10.	SAME CUP	N = 170	N = 192	p = 0,0002
	Yes No Don't Know	11,2 66,5 22,4	3,6 84,4 12,0	
11.	BLOOD TRANSFUSION	N = 170	N = 192	p = 0,0001
	Yes No Don't Know	87,1 4,7 8,2	98,4 1,0 0,5	
14.	BREASTFEEDING	N = 169	N = 191	p = 0,0017
	Yes No Don't Know	40,2 13,0 46,7	29,3 27,7 42,9	

TABLE E

A COMPARISON OF THE RESPONSES TO Q 2.2 OF BLACK AND WHITE PUPILS IN THE SAMPLE

QUESTION 2.2		WHITE (%)	BLACK (%)	
1.	SEX: MAN — MAN	N = 274	N = 60	p = 0,0001
	Yes No Don't Know	94,3 0,7 5,0	83,3 10,0 6,7	
14.	BREASTFEEDING	N = 273	N = 59	p = 0,0008
	Yes No Don't Know	29,3 23,1 47,6	54,2 10,2 35,6	

TABLE F

A COMPARISON OF THE RESPONSES TO Q 2.3 OF STD 7 AND STD 9 PUPILS IN THE SAMPLE

		STD 7 (%)	STD 9 (%)	
1.	SALIVA	N = 168	N = 190	p = 0,0000
	Yes No Don't Know	28,0 48,2 23,8	12,6 76,8 10,5	
2.	SEMEN	N = 170	N = 191	p = 0,0000
	Yes No Don't Know	58,8 4,7 36,5	86,9 3,7 9,4	
3.	VAGINAL SECRETIONS	N = 169	N - 191	p = 0,0014
	Yes No Don't Know	61,5 7,1 31,4	78,0 6,3 15,7	
4.	BLOOD	N = 168	N = 192	p = 0,0003
	Yes No Don't Know	89,3 1,2 9,5	99,0 0,0 1,0	
5.	SWEAT	N = 168	N = 188	p = 0,0000
	Yes No Don't Know	7,1 62,5 30,4	3,7 88,8 7,4	

TABLE G

A COMPARISON OF THE RESPONSES TO Q 2.3 OF BLACK AND WHITE PUPILS IN THE SAMPLE

		WHITE (%)	BLACK (%)	
2.	SEMEN	N = 264	N = 59	p = 0,000
	Yes No Don't Know	79,9 2,9 17,2	52,5 10,8 37,3	

TABLE H

A COMPARISON OF THE RESPONSES TO Q 2.4 OF STD 7 AND STD 9 PUPILS IN THE SAMPLE

QUESTION 2.4		STD 7 (%)	STD 9 (%)	
1.	RED BLOOD CELLS	N = 164	N = 188	p = 0,0000
	Yes No Don't Know	32,3 21,3 46,3	35,1 40,4 24,5	
2.	SPERM	N = 166	N = 187	p = 0,0006
	Yes No Don't Know	56,6 11,4 31,9	52,4 26,7 20,0	
3.	EGG	N = 164	N = 187	p = 0,0001
	Yes No Don't Know	47,0 12,8 40,2	39,6 32,1 28,3	
4.	ONE TYPE OF WHITE BLOOD CELL	N = 165	N = 189	p = 0,0016
	Yes No Don't Know	18,8 22,4 58,8	27,5 32,8 39,7	
5.	ALL WHITE BLOOD CELLS	N = 166	N = 190	p = 0,0025
	Yes No Don't Know	37,3 10,8 51,8	52,1 14,8 33,7	

TABLE I

A COMPARISON OF THE RESPONSES TO Q 2.5 OF STD 7 AND STD 9 PUPILS IN THE SAMPLE

QUESTION 2.5	STD 7 (%)	STD 9 (%)	
	n = 169	n = 193	p = 0,0034
Weakens it Destroys it Don't Know	85,2 5,9 8,9	95,3 2,6 2,1	

TABLE J

A COMPARISON OF THE RESPONSES TO Q 2.6 OF STD 7 AND STD 9 PUPILS IN THE SAMPLE

QUESTION 2.6		STD 7 (%)	STD 9 (%)	
4.	SCHOOL LESSONS & TALKS	N = 162	N - 191	p = 0,0000
	Yes	51,9	75,4	

TABLE K

A COMPARISON OF A SELECTED RESPONSE TO Q 3.1 OF BLACK AND WHITE PUPILS (BY A SINGLE TEST OF PROPORTIONS)

WORRY	WHITE (%)	BLACK (%)	
IF YOU GET AIDS YOU WILL BE REJECTED BY SOCIETY	40,0	60,0	p = 0,00233 Z = 2,8306

TABLE L

A COMPARISON OF THE RESPONSES TO Q 3.3 OF BOYS AND GIRLS IN THE SAMPLE

BENEFIT	MALES (%)	FEMALES (%)	
	N = 145	N = 108	p = 0,0004
POPULATION CONTROL HEALTH & BEHAVIOUR NOTHING GOOD	86,9 12,4 0,7	66,7 28,7 4,7	

CATEGORY 4 WAS OMITTED IN THE STATISTICAL COMPARISON

TABLE M

A COMPARISON OF THE RESPONSES TO Q 3.4 OF BLACK AND WHITE PUPILS IN THE SAMPLE

QUESTION 3.4		WHITE (%)	BLACK (%)	
4.	YOU TAKEN OUT OF CLASS	N = 234	N = 54	p = 0,0006
	Yes No Don't Know	5,1 78,6 16,2	20,4 61,1 18,5	

TABLE N

A COMPARISON OF THE RESPONSES TO Q 3.4 OF BOYS AND GIRLS IN THE SAMPLE

QUESTION 3.4		MALES (%)	FEMALES (%)	
1.	AVOID HIM/HER	N = 186	N - 128	p = 0,0000
	Yes No Don't Know	37,1 33,3 29,6	7,8 62,5 29,7	
2.	MAKE FRIENDS	N = 190	N = 134	p = 0,0000
	Yes No Not Sure	23,2 35,8 41,1	42,5 9,0 48,8	
4.	YOU TAKEN OUT OF CLASS	N = 182	N = 128	p = 0,0013
	Yes No Not Sure	12,6 68,7 18,7	2,3 84,4 13,3	

TABLE O

A COMPARISON OF THE RESPONSES TO Q 4.3 OF BOYS AND GIRLS IN THE SAMPLE

PERSON TO INFORM		BOYS (%)	GIRLS (%)	
4.3.1	PARENT	N = 209	N = 140	p = 0,0000
	Father Mother Both Neither	12,0 7,2 57,4 23,4	3,6 21,4 60,7 14,3	
4.3.2	FRIEND	N = 206	N = 142	p = 0,0002
	Same sex Opposite sex Both Neither	24,3 8,7 48,5 18,4	31,0 0,7 59,9 8,5	
4.3.3	AGE	N = 205	N = 143	p = 0,0001
	Own age Adult Both Neither	27,8 30,7 31,2 10,2	16,8 29,4 51,7 2,1	
4.3.6	TEACHER	N = 204	N = 142	p = 0,0002
	Male Female Both Neither	14,7 16,7 58,3 10,3	3,5 28,9 62,7 4,9	

TABLE P

A COMPARISON OF THE RESPONSES TO Q 4.3 OF STD 7 AND STD 9 PUPILS IN THE SAMPLE

		STD 7 (%)	STD 9 (%)	
4.3.2	FRIEND	N = 163	N = 191	p = 0,0000
	Same sex	42,3	14,1	
	Opposite sex	4,3	7,3	
	Both	36,2	66,5	
	Neither	17,2	12,0	

TABLE Q

A COMPARISON OF THE RESPONSES TO Q 4.4 OF BOYS AND GIRLS IN THE SAMPLE

		BOYS (%)	GIRLS (%)	
METHOD OF INFORMING		N = 206	N = 143	p = 0,0041
	On your own	19,4	12,6	
	In a group	48,1	39,2	
	Both	27,2	45,5	
	Neither	5,3	2,8	

Selected letters received after a one hour lesson on AIDS given by the researcher to standard 5 pupils

I enjoyed your talk, and would like to thank you. I really learnt a great deal. Before you came, I was one of the many who didn't even know what A.I.D.S stood for.

One thing that upset me, were those children we saw in the video. It is just to horrible to imagine being born with A.I.D.S. I hope your research will contribute to the cure of A.I.D.S. I believe, that the youth need education to combate the disease, so the talk was a leap in the right direction. I was shocked to find that acquiring A.I.D.S is possible by simply piercing your ear.

The "green monkey in Central Africa" theory, seems to point a finger at the black people, as causes of A.I.D.S and the ones who get A.I.D.S. And as there already is talk that A.I.D.S is a black man's disease, I think you should have brought out the fact that it is not. And if indeed the theory is correct then the disease "blew up" When all those homosexuals transfered the disease.

None the less, I enjoyed your talk. It was fascinating and I learnt a great deal.

Letter from a black pupil

I would like to thank you for giving up your time to come and talk to us about Aquired Immuno Defficiency Syndome It was a wonderful lesson because it was both educational and it has set grounds for Basic Human Standards Aids is a killer and must either be cured or prevented. I really enjoyed your talk and I think it cleared up a lot of misgivings about the disease. And I thank you.

Letter from a white pupil

I would like to thank you for coming to the Std. 5 classroom to tell us all about A.I.D.S. When I was trying to fill in the questionnaire, some of the questions were quite tricky and I left out or guessed the answers because I didnt know much about the topic. Now I realise what an immense problem it is and I now know much more about it than I used to.

I can see you went through a lot of trouble to prepare the lesson you gave us with all the videos, transparentencies and the clear and understanding explaining.

Letter from a white pupil